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INDIVIDUAL READY RESERVE (IRR) CALL-UP: SKILL DECAY

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Soldiers from the Individual Ready Reserve (IRR) called-up for the Persian Gulf war were tested at mobilization stations to determine the extent of skill decay since their release from active duty. Results of these tests, which included hands-on performance, written, and weapon qualification scores, were merged with data from personnel files and responses to a 31-item questionnaire on attitudes, job experience and personal impact of the call-up. The major findings were: (a) knowledge about Army jobs decayed mostly within 6 months; weapons qualification skills decayed mostly after 10 months; (b) previous skill qualification score was the strongest predictor of skill decay followed by AFQT scores; (c) skill decay was higher in Armor and Combat Engineering fields and lower in Infantry, Maintenance, and Supply fields; and (d) skill retention was higher for those who entered the IRR directly from active duty.

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FOREWORD

The Training Research Laboratory of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) conducts research on skill acquisition and retention, and also on motivation. The significance of these research topics to current Army issues was apparent when the Office of the Deputy Chief of Staff for Personnel (DA-DMPM) tasked ARI for a quick response to the issue of skill decay among soldiers from the Individual Ready Reserve called up for Operation Desert Storm. This report on skill decay, and a companion report on the attitudes, motivation and concerns of these reservists, respond directly to the questions from the Director of Military Personnel Management. Results were briefed to the ODCSPER in April, 1991.

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INDIVIDUAL READY RESERVE (IRR) CALL-UP: SKILL DECAY

EXECUTIVE SUMMARY

Requirement:

The Director of Military Personnel Managment tasked the U.S. Army Research Institute on 5 February 1991 to determine the "extent of skill decay" in the IRR call-up for Operation Desert Storm and report the findings in early April. The findings were briefed on 11 April 1991.

Procedure:

Reservists were identified and tracked through the mobilization stages through the Army Training Requirements and Resources System. A questionnaire was developed and administered to those not yet deployed. Hands-on and written diagnostic test scores were gathered from the TRADOC mobilization stations. An assessment was made of the conditions under which these data were collected in order to determine which tests yielded data sufficiently reliable for further analysis. From the data collected under suitable conditions, along with information from other personnel records, an integrated data base was formed and analyzed to determine the extent of decay for those MOSs with interpretable data.

Findings:

- Skill decay was evident in written diagnostic and certification tests and weapons qualifications scores.
- The picture of skill recertification is mixed. Skills were in general adequately refreshed, as measured by course completion rates, but skill decay deficits were not completely eliminated.
- Skills assessed by written tests decayed mostly within the first 6 months since separation; weapon qualification skills decayed mostly after 10 months.
- SQT was the strongest predictor of skill and knowledge retention, followed by AFQT.
- A soldier's self-assessment on our questionnaire was a strong indicator of skill performance.

- Skill retention was higher for those who entered the IRR directly from active duty.
- Paygrade had little effect on degree of skill loss.
- Skill decay was higher in Armor and Combat Engineer CMFs and lower in Infantry, Mechanical Maintenance, and Supply and Services CMFs as determined from the questionnaire.
- Skill retention was better in CMFs that had more opportunities for soldiers to use their MOS skill in civilian jobs.
- Lack of standardized "hands-on" test procedures precluded confirmation of expected decay curves.

Utilization of Findings:

The results have been briefed to the Director of Military Personnel Management. Along with a companion report of the attitudes and motivation of the IRR call-ups (Steinberg, 1991), the results can be applied to develop policies and plans for future mobilizations.

INDIVIDUAL READY RESERVE (IRR) CALL-UP: SKILL DECAY

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INDIVIDUAL READY RESERVE CALL-UP: SKILL DECAY

Introduction and Overview

In January 1991, the U.S. Army ordered 20,000 Individual Ready Reserve (IRR) members to report to mobilization stations as part of Operation Desert Storm. As most readers will know, members of the IRR are soldiers who have completed their active duty contracts but have time remaining in their military service obligation. The IRR thus represents a pool of pre-trained individuals with useful military experience. Since they are available for rapid mobilization, their proficiency at military tasks is critical. However, unlike the Selected Reserve, IRR members are not organized into units, do not get paid, and, most importantly, do not receive skill training while in the IRR. The absence of sustainment training means that time in IRR represents a period of non-use during which previously-learned skills may decay. Although the call-up was restricted to those who had been discharged within the past twelve months, a considerable decay in skills may have occurred.

On 5 February 1991, the Director of Military Personnel Management (DMPM) tasked the U.S. Army Research Institute (ARI) to determine the "extent of skill decay" for these IRR soldiers. A task force was immediately formed by the Director of the Training Research Laboratory at ARI. Members of that task force were: Robert Wisher (Leader), Richard Kern, Alma Steinberg, Mark Sabol, Hillel Sukenik, Joseph Hagman (all from ARI), and LTC Joseph Thoman as TRADOC point of contact and Maria Winston as DMPM point of contact.

A study plan was quickly prepared and briefed to BG Stroup on 4 March 1991. Data were collected and a preliminary analysis conducted over the next month. The results were briefed to BG Stroup on 11 April 1991. This research report documents the skill decay findings in greater detail. A companion report (Steinberg, 1991) documents the findings on the attitudes and motivation of soldiers in this call-up.

The reservists began reporting on 31 January. Mobilization was therefore well underway by the time we received our tasking. The Training and Doctrine Command (TRADOC) had already established an in-processing strategy to screen for medical and other problems, diagnose skill deficiencies, recertify MOS and common task skills, and deploy the troops to CONUS replacement centers or to Europe. For our task force, then, there was a tight schedule in developing a strategy, collecting and analyzing data, and reporting results quickly.

The task force determined that time constraints and mobilization urgencies would not allow any alteration in the diagnostic testing of skills ongoing at the mobilization stations, since IRR soldiers were completing training and being deployed in early February. Although alterations in the test procedures might have yielded more useful scientific data, the mobilization took priority. The skill performance data that were being collected during the screening and testing process had to serve as the primary basis for assessing skill decay. There was time, however, to design a questionnaire to survey skill retention, training preparedness, and several related issues.

A thirty-one item questionnaire was constructed and express-mailed on 14 February to the mobilization stations, along with a message of support from DCST TRADOC. This message (and supporting instructions) requested that the schools retain any hardcopy diagnostic tests being administered to IRR soldiers during in-processing and that they administer our questionnaire at the conclusion of skill recertification, just prior to deployment.

In the meantime, a database was constructed to receive and integrate the expected information. The Army Training Requirements and Readiness System (ATRRS) database was used to identify soldiers who were called up and to track them through the mobilization stages. As performance measures arrived and our questionnaires were returned, the data were integrated with other personnel information. This final integrated database formed the basis for responding to the tasking.

The current report provides a description of the five data sources and the methodology used to collect and analyze self assessment reports, performance data, and written tests. The results of the data analysis are presented and interpreted to establish predictors of skill decay. Appendices provide more detailed breakouts of data on responses to questionnaire items and tabular layouts of specific analyses.

Data Sources

The data used in measuring skill decay were derived from the five sources depicted in Figure 1. The sample sizes shown in this figure represent IRR soldiers who contributed information to that data source. Depending on the specific research question posed, various combinations of these data sources were used in the analysis, each combination requiring the matching of social security number (SSN) across two or more sources. The resulting merged data set contained records only from those soldiers whose SSN occurred in each component source. Therefore, the sample sizes used to address different research questions ranged from as small as 69 for a specific MOS diagnostic test to as large as 17,306 for an overall demographic analysis. Each data source is described briefly below.

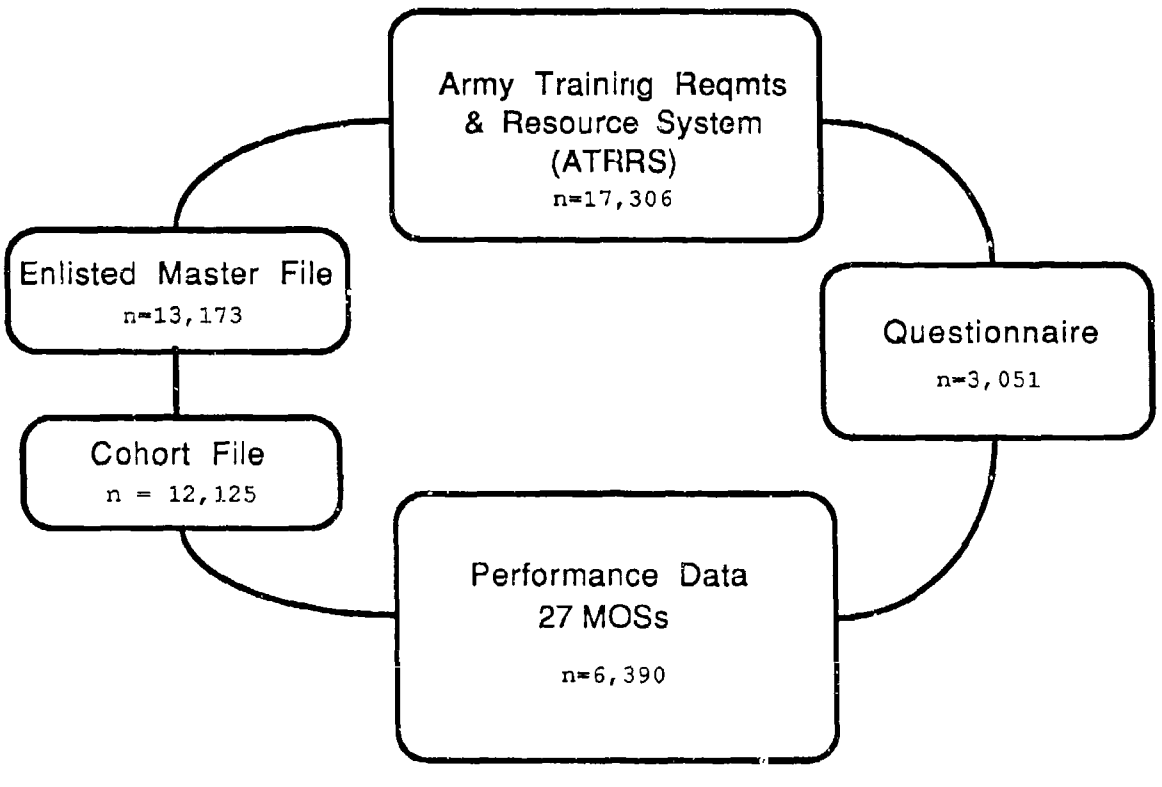

Figure 1. IRR - Skill Decay Integrated Database

Army Training Requirements and Readiness System

ATRRS was used to identify soldiers who reported for the IRR call-up and to track them, by SSN, through reporting to the mobilization station, completion of in-processing, reporting for recertification training, and either deployment or release from active duty. Since ATRRS was updated electronically every 24 hours from the mobilization stations (including corrections to SSNs), the number of soldiers in ATRRS and their status changed daily during the study. In the end, records on 17,306 soldiers were identified for inclusion in our analyses. These records were the baseline to which data from the following two personnel files were matched.

Enlisted Master File

The Enlisted Master (EMF) contains 332 variables on soldiers who at some time were on active duty. Our access to EMF records of soldiers who had been separated from active duty for more than 90 days was possible because of quarterly updates ARI received from the Military Personnel Command to support manpower research and studies. Of the 17,306 records in ATRRS, 13,173 were found to match SSNs in the EMF. The difference is mostly a matter of call-ups who were never on active duty, as well as occasional mis-entry of SSNs in either database.

Twenty-two variables were extracted and examined from the EMF. Of these, the most important variable for the skill decay analysis was "date of separation" from active duty. This allowed us to calculate the number of months between separation from active service and date of IRR call-up, which served as our estimate of the skill retention interval. Other variables of immediate interest were Skill Qualification Test (SQT) score and paygrade. Other variables (e.g., promotion points, date of birth, gender) were transferred to the integrated database in the interest of future analyses.

Cohort File

The Cohort file is an ARI research file provided by the Defense Manpower Data Center. It is based primarily on data extracted from the EMF with the addition of other variables. It is entitled "Cohort" because it consists of separate files generated as annual "snapshots," one for each year since 1985. The main variable

selected from the Cohort file was AFQT score. A little over 12,000 SSNs from the ATRRS file matched Cohort records.

Questionnaire

A thirty-one item questionnaire (Appendix A), developed by the task force, was administered to soldiers upon completion of the recertification training, just prior to deployment. Since the task force was formed after the recertification process had begun, many soldiers had already been deployed or discharged early, so that our sample of completed questionnaires was narrowed to 3,051. This questionnaire was divided into four sections: Army Background, MOS Tasks, Call-up Process and Impact, and Comments. Of direct interest to the skill decay study were the following questions, each with a multiple choice response format (shown in Appendix A):

(Q13) "How often did you perform tasks in your recent civilian life (job, hobbies, school, volunteer work) that were similar to tasks in your primary MOS?" This question sought to determine the extent to which skills had been used during the retention interval; such occasional use has been known to sustain skills through periods without formal practice.

(Q14) "At the time you were called-up, how many of your primary MOS skills did you remember?" It was hoped that response to this question could be externally validated by comparison with the diagnostic test results; if so, this question would provide a broad and consistent measure of skill decay.

(Q18) "Now that you have completed retraining, how technically prepared do you feel about your Army job?" This question was expected to provide a general assessment on the adequacy of the recertification and refresher training.

(Q20) "Overall, how confident are you that you would perform well as a soldier in a combat situation?" This question could provide an overall judgment of individual preparedness.

An analysis of the attitude and motivational issues stemming from other questions and the many comments generated by soldiers are presented in a companion report (Steinberg, 1991). Results that bear directly on the issue of skill decay are discussed later in the present report.

Performance Data

The data derived from the performance and knowledge tests were either gathered directly by ARI personnel on temporary duty to the mobilization stations or mailed by the schools to the task force at ARI HQ. The data were evaluations of hands-on performance (both numerical scores and Go/No Go ratings), weapons qualification scores, and percentage scores from written knowledge tests. Some had been used by trainers as diagnostic tools, others as means of determining whether skill recertification had been successful. The "diagnostic" tests generally were administered shortly after the in-processing of personnel, either before or at the start of recertification training. For our purposes in the present study, these "diagnostic" tests were most important, since they could potentially be used to assess the extent of skill decay. Problems encountered in realizing this potential interpretation are discussed in a later section of this report.

A complete listing of MOSs with type of performance test obtained and sample size is provided in Table 1. When data from these soldiers were used in analyses of individual skill performance by crossmatching between data sources, missing or erroneous entries in the other data sources resulted in dropping of a few records. Important examples of such loss were out-of-range values for separation-dates; these anomalies made accurate determination of time-out-of-service impossible. Also, test data for some MOSs were available only in the form of class totals, each class having over one hundred soldiers; these scores could not be integrated in the larger database for later analysis of individual soldier performance.

Table 1
MOS-specific Performance Tests

HANDS-ON TESTS

MOS Title	Test	Number Tested
11B Infantryman	M16 Weapon Qualif	205
	Squad Auto Wpn Qual	194
11C Indirect Fire Infantryman	Mortar Target	134
11H Heavy Antiarmor Infantryman	TOW ITV Target	134
	TOW HMMWV Target	297
12B Combat Engineer	Emplace M14 Mine	659
	Emplace M16 Mine	658
	Emplace M15 Mine	659
	Emplace M19 Mine	659
	Emplace M21 Mine	660
	Locate Mine w/Probe	659
	AN/PSS11 Detector	
	Locate Mine w/Probe	661
	M16 Weapon Qualif	702
13B Cannon Crewmember	Emplace/Recover Aiming Posts	1208
	Emplace/Recover Collimator	1195
	Identify/Prepare Ammo for Firing	1190
	Load/Fire/Clear Weapon	1166
13E Cannon Fire Dir Spec	Towed & SelfPropelled (Common tasks only)	176
19D Cavalry Scout	Load the 25mm Gun Feeder (Plus 12 other tasks)	207
19K M1 Armor Crewman	Boresight Main Gun (Plus 16 other tasks)	438
63T Bradley System Mechanic	Maintain Starting Sys (Plus 14 other tasks)	44

KNOWLEDGE TESTS

MOS Title	Test	Number Tested
41C Fire Control Instrument Repairer	SQT-Prior to Training	13
45B Small Arms Repairer	SQT-Prior to Training	37
45G Fire Control Systems Repairer	SQT-Prior to Training	8
45K Tank Turret Repairer	SQT-Prior to Training	57
45L Artillery Repairer	SQT-Prior to Training	20
63D Self-Propelled FA System Mechanic	SQT-Prior to Training	99

Table 1 (continued)

63G	Fuel/Electric Systems Repairer	SQT-Prior to Training	40
63H	Track Vehicle Repairer	SQT-Prior to Training	134
63J	QM/Chemical Equipment Repairer	SQT-Prior to Training	55
63W	Wheel Vehicle Repairer	SQT-Prior to Training	145
63Y	Track Vehicle Mechanic	SQT-Prior to Training	76
76C	Eqpmt Records/Parts Specialist	Diag #1 Automated Proced	319
		Diag #2 non-Auto Proced	297
		Certification Exam	206
76P	Material Control and Accounting Specialist	Diagnostic Test	128
		Certification Exam	125
76V	Material Storage and Handling Specialist	Diagnostic Test	160
		Certification Exam	145
76X	Subsistence Supply Specialist	Diagnostic Test	28
		Certification Exam	28
76Y	Unit Supply Specialist	Diagnostic Test	241
		Certification Exam	206
77F	Petroleum Supply Spec	Diagnostic Test	361
77W	Water Treatment Spec	Diagnostic Test	19

Integration of Databases

Initially, data from the ATRRS were transferred, via floppy disks, to a PC-compatible microcomputer. Data from the EMF and Cohort files were first downloaded by modem to ARI's mainframe VAX computer and then transferred to the microcomputer through a local area network. The questionnaire and performance data were entered into the microcomputer by hand. All of these data files were converted to Statistical Analysis System (SAS) data sets and then merged on the basis of SSN.

Analysis and Interpretation of Data

Demographics

A brief overview of demographic factors for our IRR population is provided in Table 2. As determined from the ATRRS database, the percentage of volunteers in the call-up was about 5%. As Table 2 shows, the volunteers had higher paygrades (24% E6 or higher) than the call-ups (1% E6 or higher).

Table 2
Demographic Breakdown of IRR Soldiers (n=17,306)

SEX

	Male	Female
Call-up	93%	7%
Volunteer	91%	9%

RACE

	Caucasian	Black	Amer Ind	Asian	Other
Call-up	80%	14%	1%	1%	4%
Volunteer	81%	16%	1%	0%	2%

AGE

	≤20	21-22	23-24	25-26	27-28	29-30	≥31
Call-up	4%	30%	38%	16%	7%	3%	3%
Volunteer	0%	7%	18%	29%	14%	9%	23%

PAYGRADE

	E1-2	E3	E4	E5	E6-7	E8-9
Call-up	13%	17%	59%	10%	1%	0%
Volunteer*	11%	10%	20%	19%	15%	9%

* In addition, there were 151 officers.

The career management field (CMF) and MOS breakout is listed in Appendix B. Altogether there were 160 MOSs and 30 CMFs represented in the call-up, with Infantry (n=3,869), Mechanical Maintenance (2,701), and Field Artillery (1,991) being the three largest CMFs.

Of the 17,306 soldiers who reported to mobilization stations, 2,836 (16%) did not proceed to recertification of skills because they were separated or screened for the reasons indicated in Appendix C. The three principal reasons were medical separation (6%), compassionate/dependency/hardship (4%), and temporary medical (2.5%).

Completed questionnaires were obtained from 3,051 soldiers at seven mobilization stations. The major "demographic" results were:

- 39% were married;
- 33% were attending college;
- 60% reported that their monthly income would decrease because of the call-up;
- 77% reported no overlap between their primary MOS tasks and the tasks performed recently as a civilian;
- 43% said they liked their MOS a lot or somewhat;
- 80% reported serving on active duty only, as opposed to 20% who reported some reserve duty in addition to the IRR.

A complete breakdown of response frequencies to each item in our questionnaire, arranged by mobilization station, is presented in Appendix A.

Skill-Decay Performance Data

As described above, skill levels were measured by using existing hands-on and written tests prepared earlier by the TRADOC schools. To determine the circumstances under which these tests were administered, site visits and calls were made by ARI researchers to those directing the recertification of skills. Although the intention of these performance tests was to diagnose skill deficiencies and provide a basis for recertification training, the practicalities of the mobilization generally led to routines in testing that were not compatible with a strict assessment of skill decay. Aspects of these routines which complicate interpretation included:

- demonstrations prior to task performance
- coaching during task performance
- relaxation of some test criteria
- testing of sub-task combinations only
- grading group rather than individual performance.

Whenever these problems were found to be prevalent in the "diagnostic" testing, the resulting performance data for that MOS were not included in the analysis. Such problems were identified primarily in the administration of hands-on measures. Weapons qualification and written tests, however, usually involved more suitable administration routines, so that these tests provided measures more readily interpretable in terms of skill decay. The results reported later in this section, then, will be necessarily restricted to those cases in which the data were collected under conditions that allowed confident interpretation and in which the sample sizes were appropriate for statistical testing. In addition, volunteers (5% of total) and those with a paygrade higher than E6 (1%) were dropped because the samples sizes were small.

Overview of Analysis

The general strategy for our analysis was to determine the effect that variables such as AFQT, SQT, paygrade, and time-out-of-service (TOS) had on the diagnostic, certification, and weapons qualification scores. These variables are thought to be important for the following reasons: (1) AFQT can be taken as a

rough measure of a soldier's aptitude for acquiring a skill, (2) SQT measures the soldier's level of skill achievement, (3) paygrade generally reflects the amount of experience the soldier has in actual job performance, and (4) TOS represents the period during which job skills may diminish due to skill decay. The relationship between the performance measures and various questionnaire items was also determined, particularly regarding the question, "How many MOS skills did you remember?" If response to this question proved to be predictive of skill performance, then it will be useful as an alternate to performance data. In this way, our results would provide a broader measure, potentially generalizable to all those answering the questionnaire. A brief technical description of these analyses follows.

Three types of analyses were performed on these data: 1) an analysis of the relationship between "demographic" data found in the merged ATRRS-EMF-COHORT data set and raw performance measures; 2) an analysis of the relationship between demographic data found in the merged ATRRS-EMF-COHORT-Questionnaire data set and performance measures transformed into standardized scores; and (3) an analysis to determine whether soldiers in different CMFs responded differently to the skill-related items on the questionnaire. The first two analyses sought an answer to the question, "Which variables are significant predictors of skill decay?" The third analysis sought to answer the question "Does skill decay vary across CMFs?"

In the first analysis, there were 15 raw performance measures. These included five sets of diagnostic knowledge test scores (MOSs 76C, 76P, 76V, 76Y, and 77F), five sets of certification knowledge test scores (obtained from the same soldiers who gave the diagnostic test scores), one set of procedural scores (MOS 12B), and four sets of target-shooting scores (MOSs 11C, 11H(2), and 12B). The lowest sample size for any of these sets of scores was 69. Since data on only a few subjects were eliminated from each set due to missing or erroneous file data for particular subjects, sample sizes were large enough to perform separate multiple-regression procedures on each set.

In the second analysis, there were three measures--diagnostic, certification, and target (weapon qualification)--and the demographic measures included soldiers' responses to the questionnaire. The use of questionnaire responses meant that sample sizes within each performance measure were reduced. In

order to compensate for this sample size reduction, new sets of data were created by combining similar measures. These new sets were created by first transforming 14 of the original 15 raw performance measure sets into sets of z-scores (the only procedural measure, MOS 12B, was dropped). That is, each set was standardized, so that it had a mean of zero and a standard deviation of one. These standardized data sets are comparable, in that a soldier receiving a transformed score of +2.00, for example, on one measure and a soldier receiving the same +2.00 transformed score on another measure can be said to have performed above average to the same degree. Transformed sets derived from the same type of measure--diagnostic, certification, or target--were then combined. Separate analysis of variance procedures were performed on these three data sets.

In the third analysis, the five largest CMFs in our sample were identified: Infantry, Armor, Combat Engineering, Mechanical Maintenance, and Supply and Services. A chi-square test of independence was performed on responses to the four questionnaire items most relevant to skill decay. This test asks whether soldiers' CMFs influence their responses to these items.

Regression Analysis

The results of the multiple regression analysis are presented in Table 3. The variables used as possible predictor variables in this analysis were AFQT percentile, last SQT decile, pay grade (E1 to E6), and time out of service (in months). The table shows the correlations, simple r, observed between the successive MOS performance measures in the first column and each of the four predictors, separately. The asterisks indicate statistical significance in multiple regression, that is, those cases in which the predictor variable made a significant increment in variance explained by the combined predictors.

Interpretation of these results follows the table. This is based on the measure "percent variance accounted for," which is simply 100 times the square of the correlation coefficient listed in the table. For example, SQT correlates .30 with the first performance measure, so SQT accounts for 9% of the variance in that measure. Finally, the last column in the table shows the total percentage of variance explained by all variables which made significant increments to the total (based on a stepwise regression procedure).

Table 3
Regression Analysis with SQT, AFQT, Paygrade, and Time Out of Service(TOS)

Performance Measure	Correlation (simple r) of performance measure with: SQT	AFQT	Paygrade	TOS	Total variance explained (multiple R^2)
Written Diagnostic Tests					
Equipment Records/Parts Specialist (n=217)	.30**	.32**	.20*	-.08**	20%
Material Control and Accounting Specialist (69)	.40**	.39*	.09	-.35**	31%
Material Storage and Handling Specialist (92)	.48**	.27	.02	-.13	23%
Unit Supply Spec (116)	.46**	.30*	.11	-.23**	36%
Petroleum Supply Spec (261)	.42**	.31**	.00	-.01	21%
Written Certification Tests					
Equipment Records/Parts Specialist (n=136)	.25**	.23	.14	-.14**	11%
Material Control and Accounting Specialist (71)	.43**	.53**	.01	-.30*	40%
Material Storage and Handling Specialist (83)	.42**	.40**	.18	-.18	26%
Unit Supply Specialist (89)	.13	.19	.08	-.09	0%
Petroleum Supply Specialist (261)	.40**	.30**	.02	-.05*	21%
Hands-On Tests					
Emplace Mines (procedural) Combat Engineer (n=407)	.02	.01	.04	-.03	0%
Mortar (target) Indirect Fire Inf (76)	.01	.09	.18	-.18	0%
TOW-HMV (target) Heavy Antiarmor Inf (200)	.02	.14*	.07	-.04	2%
TOW-ITV (target) Heavy Antiarmor Inf (81)	.07	.06	.06	-.17	0%
M16 Qualify (target) Combat Engineer(439)	.24**	.07	.14*	-.05*	8%

**Significant at .01 level (from multiple regression) * Significant at .05 level

The findings derived from Table 3 can be summarized as follows:

a) SQT decile was a significant predictor of performance on all five diagnostic knowledge tests, accounting for 9 to 23% of the variance in different diagnostic measures;

b) SQT decile was a significant predictor of performance on four out of five certification exams, as well (accounting for 6 to 18% of the variance in different certification measures) and one of the four target measures (6% variance accounted for, v.a.f);

c) Although the effect was slightly weaker, AFQT percentile was also a significant predictor for 4 out of 5 diagnostic measures (9 to 15% v.a.f.) and 3 out of 5 certification measures (9 to 28%);

d) Pay grade was a poor predictor of performance, never accounting for more than 4% of the variance in scores.

e) Time out of service (TOS) was a fair predictor of three diagnostic scores (up to 12% v.a.f.) and a weak predictor of three certification scores (up to 9% v.a.f.) and one target score (1%).

The best predictor of a soldier's performance on a knowledge test, either before any training or after a few weeks of training, was the last SQT score the soldier obtained before leaving active duty. The next best predictor was the soldier's AFQT score. These results may include an effect of test-taking ability, so that the soldier who did well taking a test during active duty is also likely to do well on such a test upon call-up; however, there may also be a real effect of both the highest skill level which a soldier has attained (measured by last SQT) and the soldier's aptitude for learning (measured by AFQT). The amount of time which has elapsed since the soldier saw active service had a small effect on pre-training scores and a still smaller effect upon post-training scores. The soldier's pay grade had virtually no effect.

Analysis of Variance (ANOVAs)

The next set of analyses utilized questionnaire responses as an additional source of demographic data (i.e., as a new independent variable) and used, as dependent variables, standardized performance scores collapsed into diagnostic, certification, and target measures. The new independent variable was derived from Q14 ("[At recall], how many MOS skills did you remember?"). The three other independent variables were formed by dividing the SQT measure into thirds (0-33, 34-67, and 67-100 percentiles), and grouping the AFQT measure (3-5, 6-7, and 8-10 deciles), and the TOS measure (2-5, 6-9, and 10-13 months) to form groups with roughly equal sample sizes. ANOVAs were then performed separately on the standardized diagnostic, certification, and target measures. The results are shown in Table 4.

Table 4.
Summary Tables for Analyses of Variance on Standardized Measure

Diagnostic Measures

Source	df	SS	MS	F	p
Between Subjects	75	167.89	2.24		
Q14	3	37.84	12.61	19.79	<.001
SQT	2	74.42	37.21	58.39	<.001
TOS	2	4.91	2.46	3.85	<.025
AFQT	2	32.87	16.43	25.79	<.001
Interactions	66	17.86	0.27	0.42	n.s.
Error	276	175.87	0.64		
Total	351	343.77			

Certification Measures

Source	df	SS	MS	F	p
Between Subjects	72	138.44	1.92		
Q14	3	16.19	5.39	7.15	<.001
SQT	2	58.65	29.32	38.84	<.001
TOS	2	11.23	5.61	7.44	<.001
AFQT	2	39.95	19.98	26.46	<.001
Interactions	63	12.42	0.19	0.27	n.s.
Error	224	169.11	0.72		
Total	296	307.55			

Target Measures (Weapons Qualification)

Source	df	SS	MS	F	p
Between Subjects	85	128.69	1.51		
Q14	3	6.14	2.05	2.47	<.065
SQT	2	11.53	5.76	6.97	<.001
TOS	2	13.26	6.63	8.01	<.001
AFQT	2	0.71	0.35	0.43	n.s
Interactions	76	97.05	1.28	1.54	n.s.
Error	255	210.94	0.83		
Total	340	339.63			

For the diagnostic measures, response to Q14, SQT, and AFQT all had highly significant effects ($p<.001$), while time out of service (TOS) was significant at the .05 level. The four main effects of Q14 response, TOS, SQT, and AFQT, are depicted in Figures 2a, 2b, 2c, and 2d, respectively.

For the standardized and combined certification measure, all four main effects (Q14, TOS, SQT, and AFQT) were highly significant (see Figures 3a, 3b, 3c, and 3d). For the standardized and combined target measures, SQT and TOS both were highly significant ($p<.001$); however, response to Q14 just failed to reach significance ($.05<p<.10$), while the AFQT variable did not even approach significance. The main effects of Q14 response, TOS, SQT, and AFQT, are shown in Figures 4a, 4b, 4c, and 4d, respectively.

Note that SQT was a strong predictor of all three types of scores (diagnostic, certification, and target scores). AFQT, however, while predicting diagnostic and certifications scores well, had essentially no predictive value for target scores during weapons qualification. Similarly, time out of service had the biggest effect on diagnostic and certification scores within the first five months after separation (that is, there was relatively little difference in scores produced by soldiers out of service from six to thirteen months); however, for target scores, the drop in skill performance was observed only for soldiers out more than ten months.

Note also that response to Q14 ("[After recall], how many MOS skills did you remember?") was predictive of all performance measures, particularly diagnostic scores. This result is our justification for using Q14 as an alternate to direct measurement of memory for skills. The principal advantage of this substitution is a standard administration at a constant point in the mobilization process across varying MOSs. The justification for this substitution is developed below, beginning with an analysis of all questions relevant to skill decay.

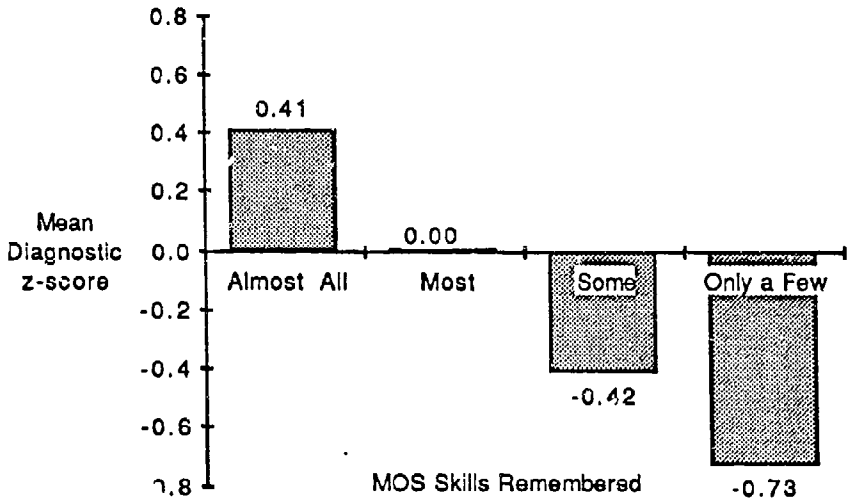

Figure 2a. Diagnostic Scores as a Function of Response to Question 14.

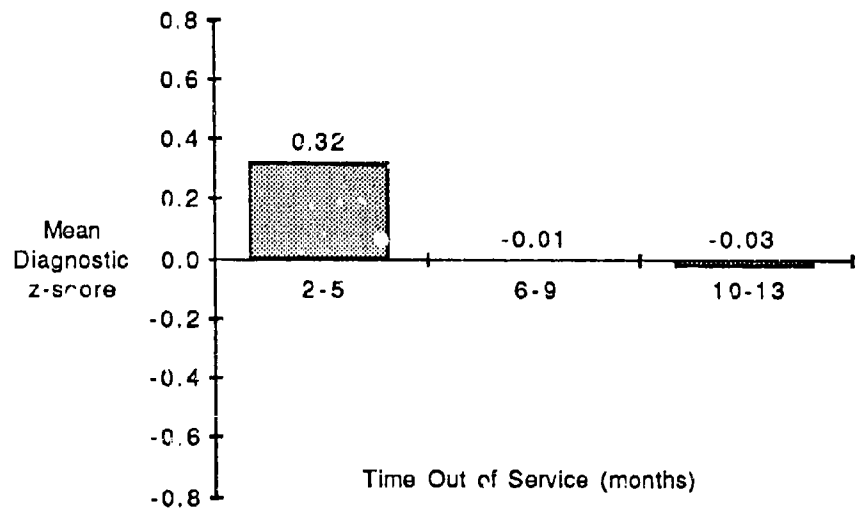

Figure 2b. Diagnostic Scores as a Function of Time Out of Service.

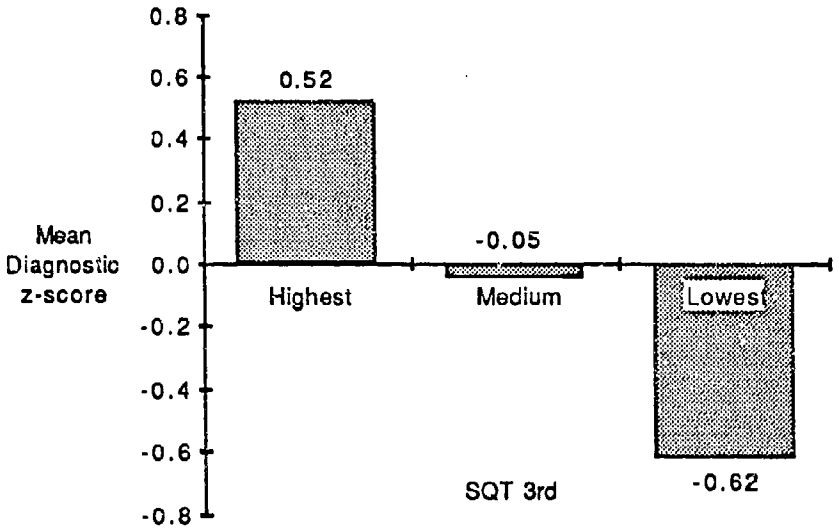

Figure 2c. Diagnostic Scores as a Function of Last SQT Score.

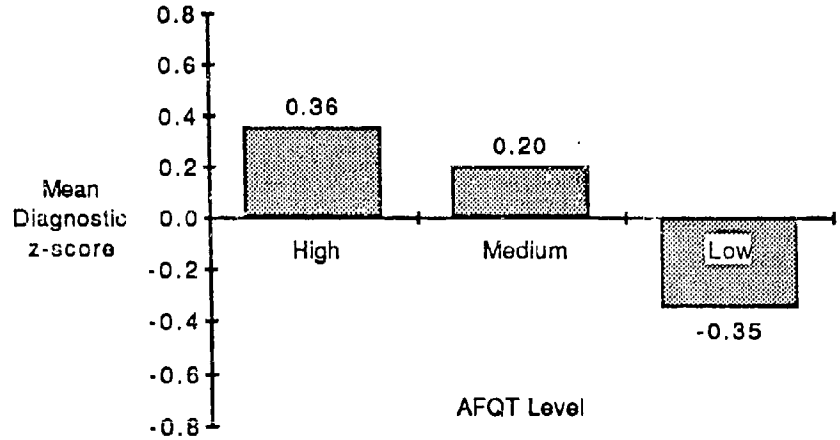

Figure 2d. Diagnostic Scores as a Function of AFQT Level.

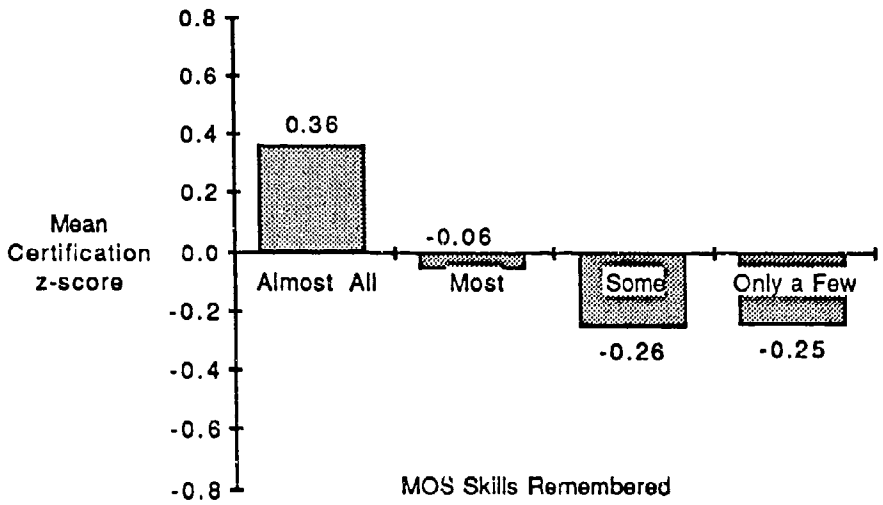

Figure 3a. Certification Scores as a Function of Response to Question 14.

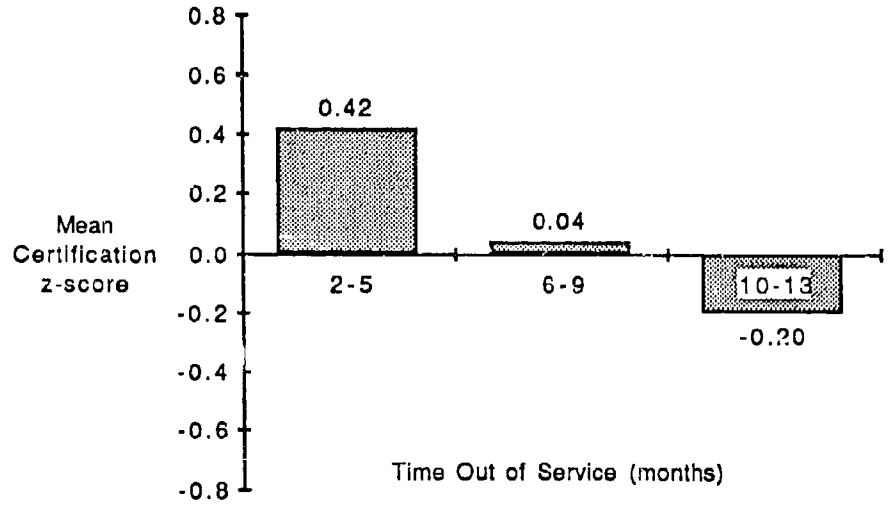

Figure 3b. Certification Scores as a Function of Time Out of Service.

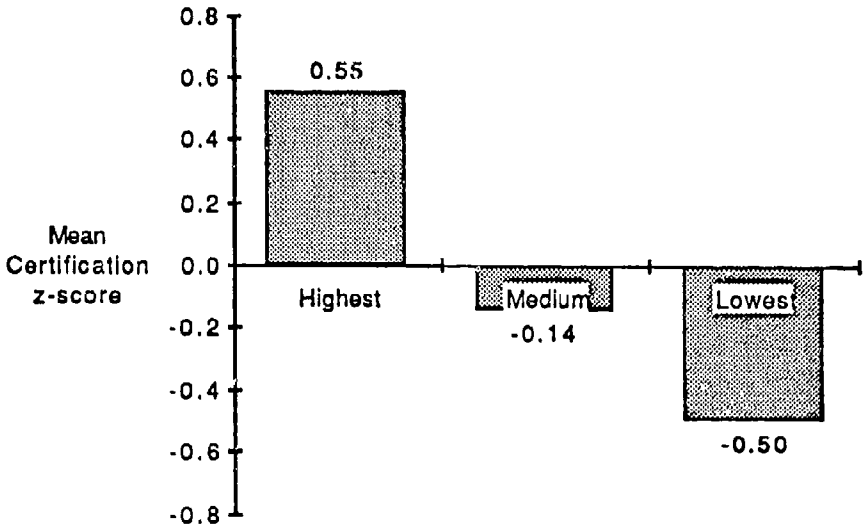

Figure 3c. Certification Scores as a Function of Last SQT Score.

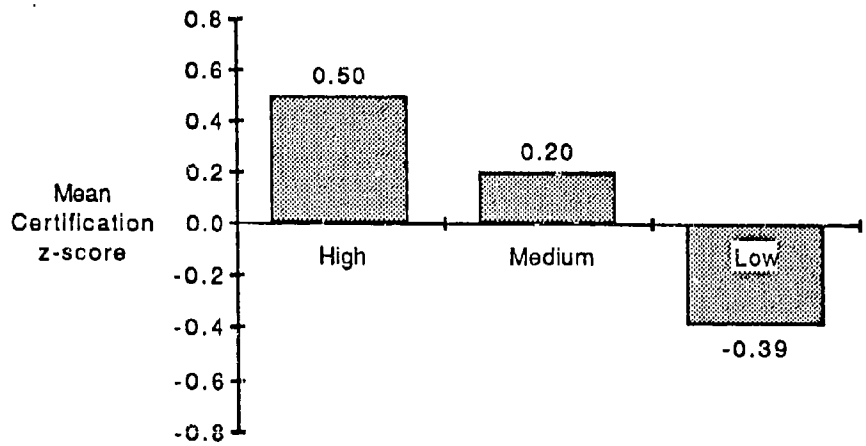

Figure 3d. Certification Scores as a Function of AFQT Level.

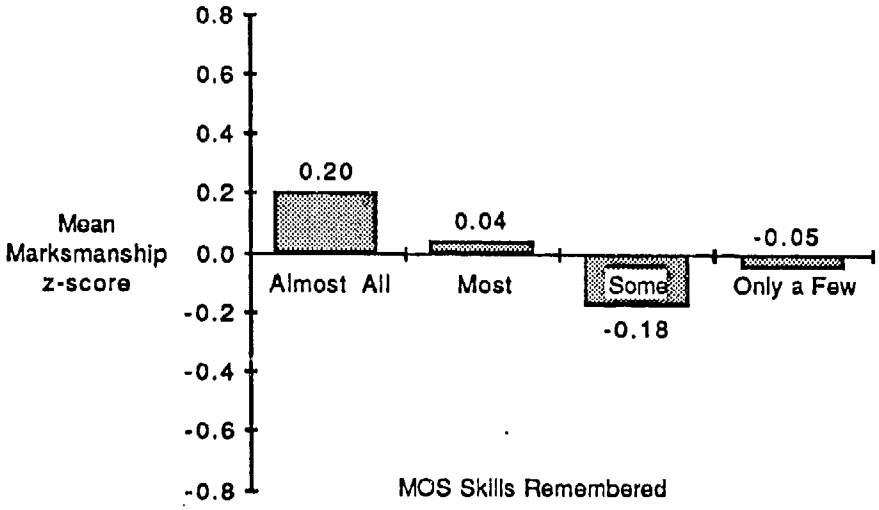

Figure 4a. Target Scores as a Function of Response to Question 14.

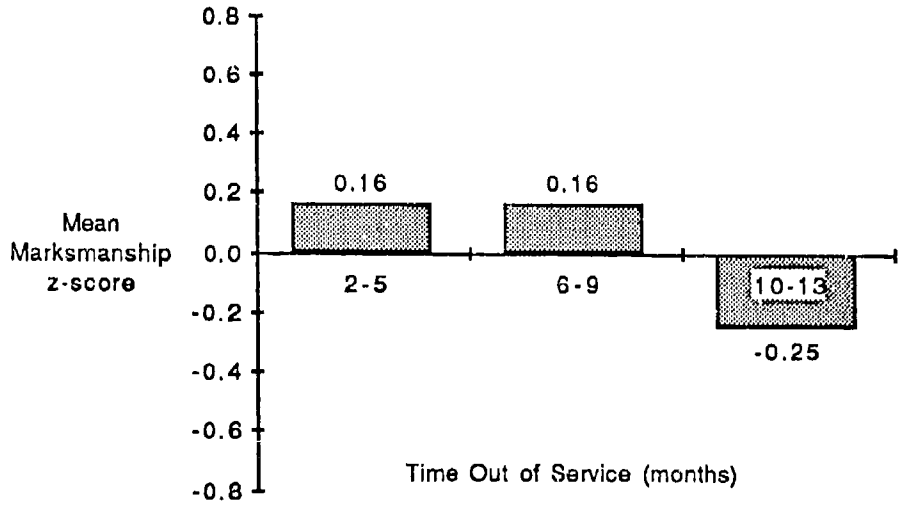

Figure 4b. Target Scores as a Function of Time Out of Service.

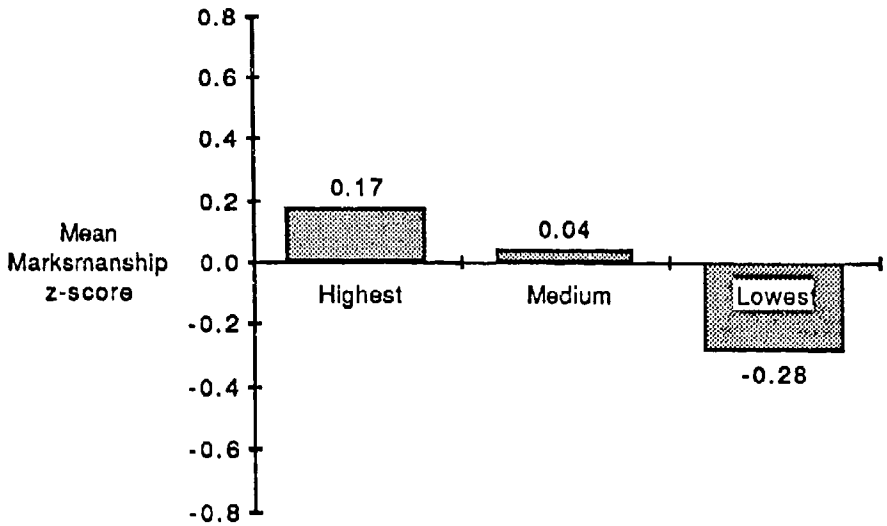

Figure 4c. Target Scores as a Function of Last SQT Score.

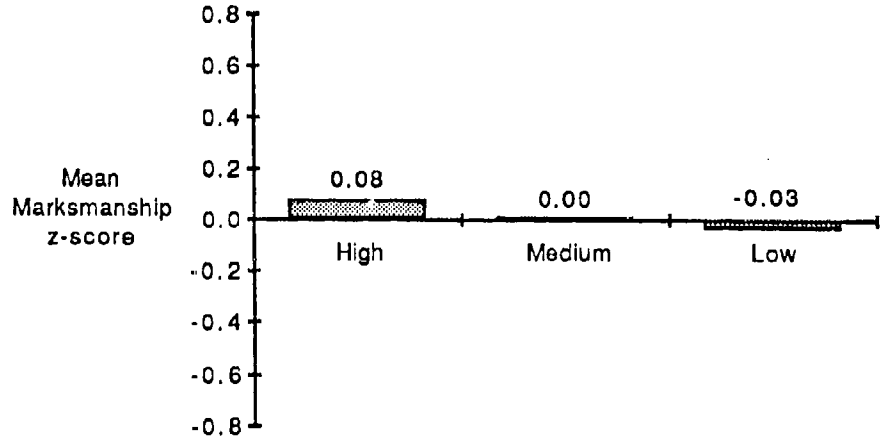

Figure 4d. Target Scores as a Function of AFQT Level.

Questionnaire Analysis

The response frequencies to the four skill decay questions were as follows:

(Q13) How often did you perform tasks in your recent civilian life (job, hobbies, school, volunteer work) that were similar to tasks in your primary MOS?

73% A. never
9% B. monthly
7% C. weekly
11% D. daily

(Q14) At the time you were called-up, how many of your primary MOS skills did you remember?

30% A. almost all, I felt that I was ready for active duty without additional training
35% B. most, I felt that I needed only a few days of refresher training
21% C. some, I felt that I needed a couple of weeks of refresher training
13% D. only a few, I felt that I needed nearly complete training

(Q18) Now that you have completed retraining, how technically prepared do you feel about your Army job?

18% A. I am not ready
31% B. I am not sure
49% C. I am ready

(Q20) Overall, how confident are you that you would perform well as a soldier in a combat situation?

15% A. not at all
17% B. somewhat
28% C. moderately
37% D. I am highly confident

To summarize these results, although most soldiers reported never doing tasks similar to their MOS skills in civilian life, most assessed themselves as remembering most or all of those MOS skills upon call-up. Such self assessment did turn out to be a good predictor of diagnostic scores, but was, in general, too optimistic. Objective diagnostic tests, which were only available from the Supply and Services CMF, showed that few soldiers could

receive a Go rating without some recertification training. The overly optimistic self-assessment may be a result of the fact the soldiers completed our questionnaire after their training; that is, their responses reflected their final state after training, rather than their initial state upon call-up. Indeed, objective certification measures did show that most soldiers knew most of their MOS skills after recertification training. This is reflected in the result that less than 20% felt "not ready" to do their Army job and most felt confident that they would do well in combat (see Appendix A). Three factors influencing such self assessment of readiness were investigated further: attitude toward the call-up, reserve duty, and career management field.

On the basis of response to item 16 in our questionnaire ("How do you feel now about being called up?") we identified 488 soldiers who were positive towards the call-up as opposed to 1,831 who were negative. Of those who were positive, 78% reported being "ready" (technically prepared); of those who were negative, only 40% reported being "ready." However, when these attitudes were compared to actual performance (the Supply and Services diagnostic data), the effect failed to reach statistical significance ($F(2,423)=2.01$, $p<.15$). The importance of attitude as an influence on technical readiness is therefore unclear.

Similarly, on the basis of response to item 1 of our questionnaire, we identified 607 soldiers who reported some reserve duty in addition to the IRR as opposed to 2,444 soldiers who reported serving on active duty only. Of the reserve-duty group, 54% reported remembering all or most of their MOS skills, compared to 69% of the active-only personnel. This difference was, however, reduced when it came to technical preparedness, as 52% of the active-only and 44% of the reserve-duty group reported being technically prepared to do their Army jobs after recertification training. There is, apparently, a small negative effect of reserve service upon skill retention and technical readiness. The effects of career management field are discussed in detail below.

Skill Decay in Career Management Fields

Figures 5 through 8 depict the response frequencies to the four key questions on skill decay broken down by the five largest career management fields, three from combat arms and one each from combat support and combat service support. In our questionnaire sample, the number of soldiers in each of these five career fields ranged from 136 (Armor) to 585 (Infantry).

"How Often in Civilian Life Did You Perform MOS-like Tasks?

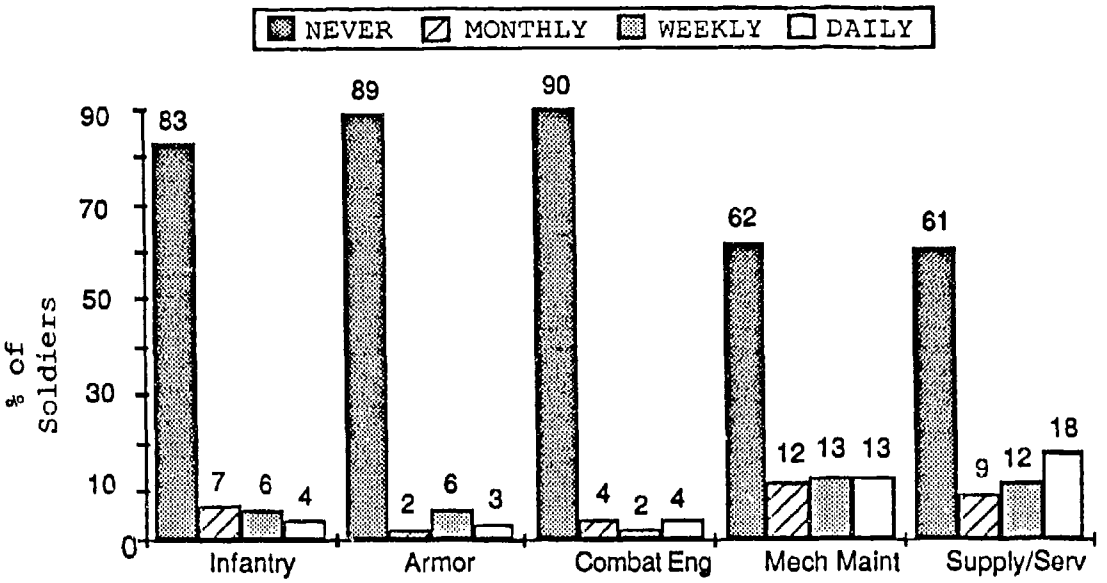

Figure 5. Response to Question 13 by Different CMFs

As might be expected, more soldiers in the mechanical maintenance and supply and services career fields exercised their Army skills in civilian life than did their combat arms and combat support counterparts. About 30% of those in the maintenance and supply fields reported performing MOS tasks on at least a weekly basis, compared to less than 10% for those in the combat arms and combat support fields. A chi-square analysis performed on the data in Figure 5 showed these differences to be significant at the .001 level ($\chi^2(12) = 174.9$); that is, we can reject the possibility that differences this large could be produced by chance.

"How Many MOS Skills Did You Remember at Call-up?"

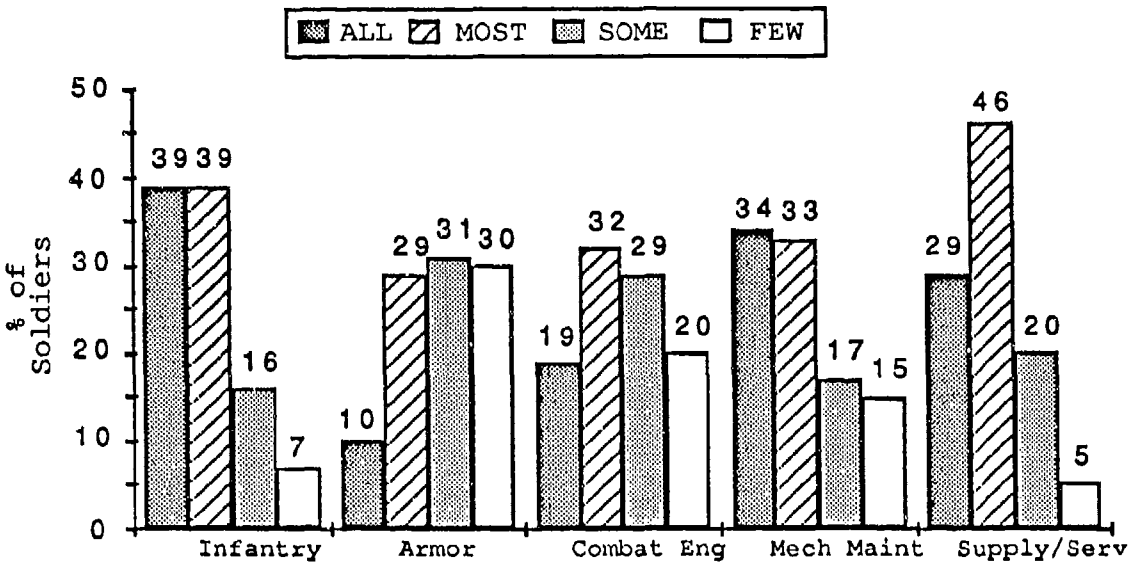

Figure 6. Response to Question 14 by Different CMFs

The infantry and supply and services career fields reported the best recall of MOS skills, with over 75% claiming they remembered all or most of their skills. The armor soldiers reported the lowest, with 61% remembering only some or a few of their MOS tasks. A chi-square analysis on the data in Figure 6 supported the conclusion that soldiers in different CMFs responded differently to this question ($\chi^2(12) = 151.6$, $p<.001$).

"Now, After Retraining, How Technically Prepared do You Feel?"

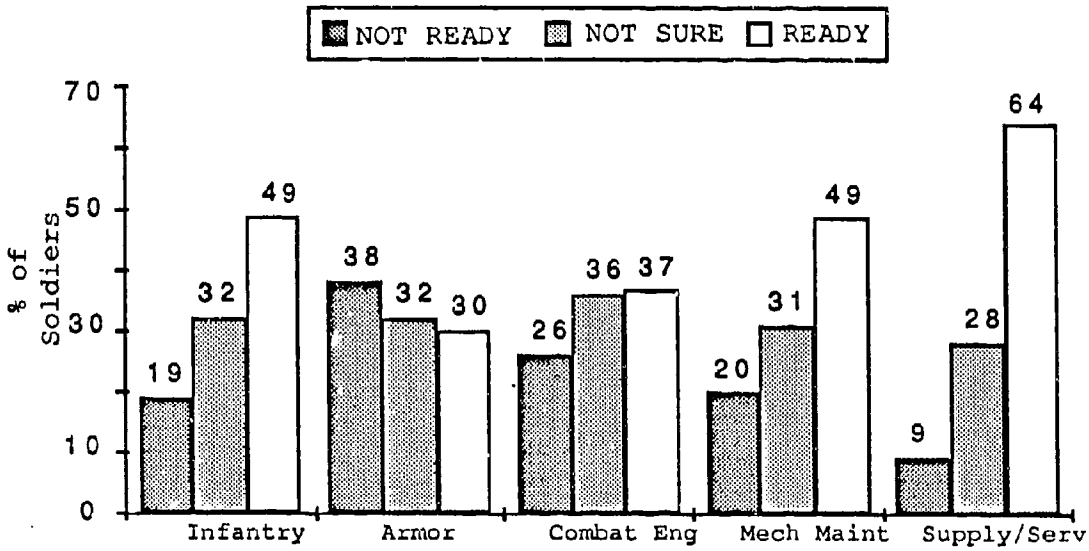

Figure 7. Response to Question 18 by Different CMFs

The supply and services group reported the highest degree of technical preparedness, 64% "ready," and armor the lowest, with only 30% indicating that they were "ready" after the recertification training. The chi-square analysis of the data in Figure 7 indicated that such differences were not due to chance ($\chi^2(8) = 89.5$, $p<.001$).

"How Confident Are You That You Will Perform Well in Combat?"

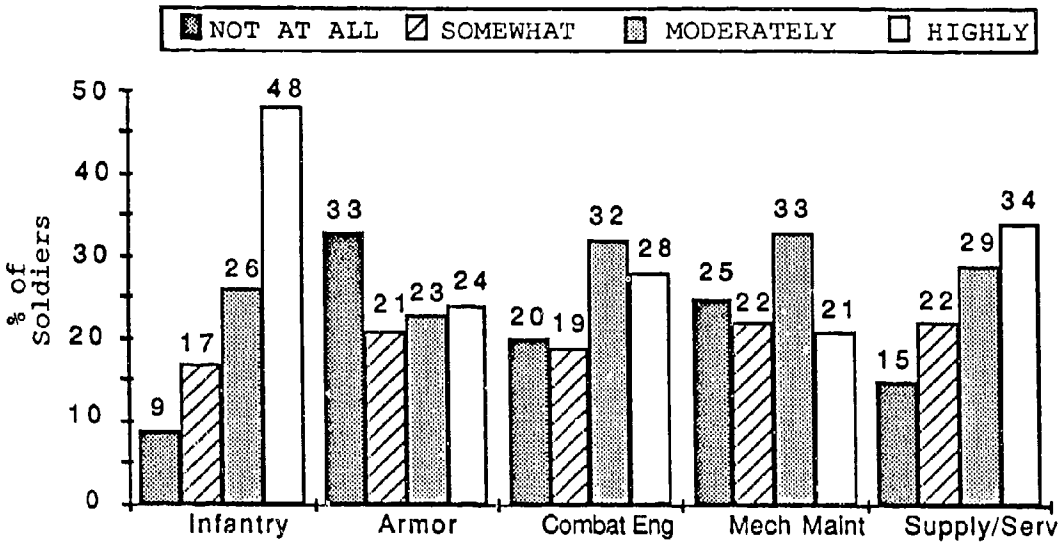

Figure 8. Response to Question 20 by Different CMFs

The infantry were the most confident that they would perform well in combat, 48% "highly confident," and the mechanical maintenance career and armor groups were the least confident, 25% or more "not at all confident." These differences in Figure 8 again proved significant ($\chi^2(12) = 85.4$, $p<.001$).

The story told by Figures 6, 7 and 8 is not altogether clear. While many soldiers reported some skill decay since their last active duty assignment, the recertification training was, by some measures, effective in overcoming this deficit. For example, only 6 soldiers among the over 17,000 reporting were released for academic reasons during recertification training (see Appendix C), and the ATRRS data showed that most soldiers completed recertification in 9 to 12 days. Nevertheless, soldiers who initially reported not remembering their MOS skills tended to report also being "not ready" (not technically prepared) after the training.

This relationship is shown in Table 5; a chi-square test showed the relationship to be highly significant ($\chi^2(6) = 1,082.8$, $p<.0001$). If recertification training had been highly effective, one would expect to find an equalizing of technical preparedness after training. That is, recertification training should restore

those who initially reported poor memory for skills to a high level of technical readiness. On the contrary, skill levels after training appeared to correspond to skill levels at call-up, at least according to self report. This result indicates that the recertification training did not completely correct deficits due to skill decay.

Table 5
Self-report of Skill Decay at Call-up (Q14) versus
Self-report of Technical Preparedness after Recertification (Q18)

	How technically prepared do you feel to perform your Army job? [after retraining]			
How many MOS skills did you remember? [at call-up]	I am not ready	Not sure	I am ready	Total
Almost All (n=896)	9%	14%	77%	100%
Most (n=1054)	8%	30%	61%	99%
Some (n=618)	22%	56%	22%	100%
Only a Few (n=380)	61%	32%	7%	100%

Such concerns about the adequacy of the recertification training are reinforced in the comments to our questionnaire documented by Steinberg (1991). Six percent of the soldiers taking our questionnaire made comments specifically addressing the inadequacy of the recertification training; these included (1) an emphasis on training common tasks rather than MOS skills and (2) the use of lax criteria for giving a Go rating. However, since we have no external confirmation of skill levels and no comparison group of active duty soldiers, we cannot judge fairly the adequacy of the recertification training.

Summary of Findings

The present study found that soldiers called-up from the IRR had lower skills and knowledge than expected from continuously active soldiers, apparently reflecting decay due to non-use during time out of service. In addition, trends for better retention were found among those with higher SQT and AFQT scores. These findings are in general agreement with previous research

reported in the literature on skill decay during active duty (for review see Bodily, Fernandez, Kimbrough, & Purnell, 1986, or Hagman and Rose, 1983).

As examples of this agreement, Schendel, Shields and Katz (1978) demonstrated that individuals of higher initial ability achieve higher levels of proficiency and retain skills for longer periods than do individuals of lower initial ability. Likewise, Wisher and Sabol (1990) showed that soldiers' overall understanding of how their equipment operates (presumably reflecting individual aptitude as measured by AFQT) facilitated retention of specific skills. Finally, the overlearning of a skill beyond minimal proficiency (presumably reflected in high SQT scores in the present study) has been demonstrated to improve retention of military tasks (Goldberg, Drillings, & Dressel, 1981; Schendel and Hagman, 1980). One main contribution of the present study, then, is the extension of these effects of aptitude and proficiency level to the IRR population.

There were, however, two complications encountered in measuring skill decay in the mobilization environment: (1) uncertainty regarding the exact retention interval for any particular soldier and any particular skill and (2) uncertainty regarding the exact skill level an individual had at time of discharge from the active duty. For example, a soldier may have been discharged three months before call-up, but may not have performed any MOS tasks for two months before discharge, making the effective retention interval five months rather than three. Generally, the measurement of skill decay requires a baseline measure of skill performance, a known retention interval since the skill was last performed, and a subsequent measure of skill performance obtained by the same procedure used in the baseline test.

In the present study, although a baseline measure of performance at the time of discharge from active duty was not available, a soldier's last SQT score was used as a best estimate of baseline skill level. Likewise, although the retention interval was not exactly known, time-out-of-service served as a conservative substitute; the true retention interval will always be at least as long as the time since discharge, except for the those few skills directly practiced in civilian life. The subsequent (decayed) skill level was available by direct measurement for only a subset of our IRR sample of soldiers and MOSs. However, having demonstrated that response to our questionnaire was a valid surrogate for direct measurer t of

subsequent skill level, we were able to extend our estimate of skill decay to five career management fields.

Given these estimates, the principal findings of this study are:

- Skill decay was evident in written diagnostic and certification tests and weapons qualifications scores.
- The picture of skill recertification is mixed. Skills were in general adequately refreshed, as measured by course completion rates, but skill decay deficits were not completely eliminated.
- Skills assessed by written tests decayed mostly within the first 6 months since separation; weapon qualification skills decayed mostly after 10 months.
- SQT was the strongest predictor of skill and knowledge retention, followed by AFQT.
- A soldier's self-assessment on our questionnaire was a strong indicator of skill performance.
- Skill retention was higher for those who entered the IRR directly from active duty.
- Paygrade had little effect on degree of skill loss.
- Skill decay was higher in Armor and Combat Engineer CMFs and lower in Infantry, Mechanical Maintenance, and Supply and Services CMFs as determined from the questionnaire.
- Skill retention was better in CMFs that had more opportunities for soldiers to use their MOS skill in civilian jobs.
- Lack of standardized "hands-on" test procedures precluded confirmation of expected decay curves.

It is hoped that these findings can provide useful insights into the nature of skill decay among IRR soldiers. Combined with the companion report on attitudes, motivation, and concerns of IRR soldiers (Steinberg, 1991), this report contributes to the empirical basis for improving any future mobilization.

References

Bodily, S., Fernandez, J., Kimbrough, J., and Purnell, S. (1986) Individual Ready Reserve Skill Retention and Refresher Training Options. Rand Corporation, Rand Note N-2535-RA, Santa Monica, CA.

Goldberg, S., Drillings, M. and Dressel, D. (1981) Mastery training: Effect on skill retention. U.S. Army Research Institute for the Behavioral and Social Sciences, Technical Report 513, Alexandria, VA.

Hagman, J., and Rose, A. (1983) Retention of military tasks: A review. Human Factors, Vol. 25.

Schendel, J.D., and Hagman, J.D. (1980) On sustaining procedural skills over prolonged retention intervals. U.S. Army Research Institute for the Behavioral and Social Sciences, Research Report 1298, Alexandria, VA.

Schendel, J., Shields, J. and Katz, M. (1978) Retention of motor skills: a review. U.S. Army Research Institute for the Behavioral and Social Sciences, Technical Paper 313, Alexandria, VA.

Steinberg, A. (1991) Individual Ready Reserve (IRR) call-up: Attitudes, Motivation, and Concerns. U.S. Army Research Institute for the Behavioral and Social Sciences, Research Report 1594, Alexandria, VA.

Wisher, R.A. and Sabol, M.A. (1990) Predicting the decay of Mobile Subscriber Equipment (MSE) operator skills. Proceedings of the 17th Army Science Conference, Durham, NC.

APPENDIX A

IRR QUESTIONNAIRE

AND

RESPONSES BY MOBILIZATION STATION

Name _____ SSN ___ - ___ - ____ Date _/_/_ 91

In accordance with the Privacy Act of 1974, your responses to this survey will be held in strict confidence.

INDIVIDUAL READY RESERVE SURVEY

PRINT the letter of your answer in the space at left.

ARMY BACKGROUND

___ 1. Have you ever been in a reserve component other than IRR? A. Yes. B. No.

___ 2. Have you ever trained at the National Training Center (NTC)? A. Yes. B. No.

___ 3. Have you ever trained at the Joint Readiness Training Center (JRTC)? A. Yes. B. No.

___ 4. What is the highest level of military schooling you have completed?
A. Basic Training B. AIT/OSUT C. PLDC D. BNCOC E. ANCOC

___ 5. How long have you been in the IRR?
A. less than 3 months C. 7 to 9 months E. 13 to 24 months
B. 3 to 6 months D. 10 to12 months F. more than 2 years

___ 6. Were you in the IRR to complete your _____?
A. Active Army obligation B. Reserve obligation C. National Guard obligation D. other

___ 7. While you were in IRR, how many days of Active Duty Training (ADT) in your primary MOS did you have in the 12 months prior to the recall?
A. none B. 1-7 days C. 8-14 days D. 15-30 days E. 31-60 days F. over 60 days

___ 8. Before this call-up, when was the last time you received ADT in your primary MOS?
A. less than 3 months ago C. 7 to 9 months E. 13 to 24 months
B. 3 to 6 months D. 10 to12 months F. more than 2 years ago

___ 9. How did you feel about your Active Army service when you left it?
A. very positive B. positive C. neutral D. negative E. very negative F. does not apply

___ 10. How did you feel about your Guard/Reserve service?
A. very positive B. positive C. neutral D. negative E. very negative F. does not apply

MOS TASKS

___ 11. In general, how much did you like your Army primary MOS job during your last duty?
A. I liked it a lot. C. I neither liked it nor disliked it. E. I disliked it a lot.
B. I liked it somewhat. D. I disliked it somewhat.

___ 12. How much overlap is there between the tasks required by your primary MOS and those you performed recently as a civilian (job, hobbies, school, volunteer work)?
A. None, the set of tasks are totally different.
B. I did a few of my MOS tasks as a civilian.
C. I did about half of my MOS tasks as a civilian.
D. I did most of my MOS tasks as a civilian.
E. The tasks I did as a civilian included nearly all of those in my MOS.

___ 13. How often did you perform tasks in your recent civilian life (job, hobbies, school, volunteer work) that were similar to tasks in your primary MOS?
A. never B. monthly C. weekly D. daily

___ 14. At the time you were called-up, how many of your primary MOS skills did you remember?
A. almost all, I felt that I was ready for active duty without any additional training.
B. most, I felt that I needed only a few days of refresher training.
C. some, I felt that I needed a couple of weeks of refresher training.
D. only a few, I felt that I needed nearly complete retraining.

(over)

CALL-UP PROCESS AND IMPACT

___ 15. How did you feel about being called-up when you first received your notice?
A. very positive B. positive C. neutral D. negative E. very negative

___ 16. How do you feel now about being called-up?
A. very positive B. positive C. neutral D. negative E. very negative

___ 17. Did you experience any problems with in-processing? A. Yes B. No
(If "Yes," describe these problems briefly in the comment space below.)

___ 18. Now that you have completed retraining, how technically prepared do you feel to do your Army job?
A. I am not ready. B. I am not sure. C. I am ready.

___ 19. How motivated are you to perform your Army duties?
A. not at all B. somewhat C. moderately D. I am highly motivated.

___ 20. Overall, how confident are you that you would perform well as a soldier in a combat situation?
A. not at all B. somewhat C. moderately D. I am highly confident.

___ 21. Marital status: A. married B. single C. divorced D. widowed E. separated

___ 22. How many children were living with you at the time of call-up?
A. none B. one C. two D. three E. more than three

___ 23. How many people (including yourself) depend upon you for some financial support?
A. one (myself) B. two C. three or more D. no one, I receive support.

___ 24. When you received your call-up notice were you attending:
A. college B. trade or vocational school C. other school/training D. I was not in school.

___ 25. How important to you was the civilian schooling that you had to leave?
A. I was not in school B. very important C. somewhat important D. not important at all

___ 26. How easy will it be to continue your schooling after you are released from active duty?
A. does not apply B. easy C. somewhat difficult D. very difficult

___ 27. How important to you was the civilian job that you had to leave?
A. I was not working B. very important C. somewhat important D. not important at all

___ 28. How easy will it be to regain your job after you are released from active duty?
A. does not apply B. easy C. somewhat difficult D. very difficult

___ 29. How will your personal monthy income be changed as a result of your call-up? It will be
A. a lot more B. a little more C. the same D. a little less E. a lot less

___ 30. How will your family monthly income be changed as a result of your call-up? It will be
A. a lot more B. a little more C. the same D. a little less E. a lot less

___ 31. How will it to be for your spouse and/or others at home to manage in your absence?
A. does not apply B. easy C. somewhat difficult D. very difficult

COMMENTS (Before each comment, indicate the question number to which it refers.)

SAMPLE SIZE FOR EACH MOBILIZATION STATION

	n
Fort Benning	806
Fort Bliss	218
Fort Jackson	348
Fort Knox	381
Fort Lee	294
Fort Leonard Wood	944
Fort Sill	60
Total	3051
Fort Dix (upon return from Europe)	319

IRR BACKGROUND QUESTIONNAIRE RESULTS

1. Have you ever been in a reserve component other than IRR?

	Yes	No	Total
Fort Benning	13%	87%	100%
Fort Bliss	16%	84%	100%
Fort Jackson	28%	72%	100%
Fort Knox	24%	76%	100%
Fort Lee	28%	72%	100%
Fort Leonard Wood	20%	79%	99%
Fort Sill*	13%	85%	98%
Total	20%	80%	100%
Fort Dix (upon return from Europe)	14%	84%	98%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

2. Have you ever trained at the National Training Center (NTC)?

	Yes	No	Total
Fort Benning	41%	59%	100%
Fort Bliss	34%	66%	100%
Fort Jackson	20%	80%	100%
Fort Knox	42%	57%	99%
Fort Lee	16%	84%	100%
Fort Leonard Wood	36%	64%	100%
Fort Sill*	43%	55%	98%
Total	34%	65%	99%
Fort Dix (upon return from Europe)	41%	58%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

3. Have you ever trained at the Joint Readiness Training Center (JRTC)?

	Yes	No	Total
Fort Benning	11%	88%	99%
Fort Bliss	10%	89%	99%
Fort Jackson	4%	95%	99%
Fort Knox	4%	94%	98%
Fort Lee	3%	97%	100%
Fort Leonard Wood	11%	88%	99%
Fort Sill*	2%	95%	97%
Total	8%	91%	99%
Fort Dix (upon return from Europe)	10%	89%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

4. What is the highest level of military schooling you have completed?

A. Basic Training
B. AIT/OSUT
C. PLDC
D. BNCOC
E. ANCOC

	A.	B.	C.	D.	E.	Total
Fort Benning	7%	76%	15%	1%	0%	99%
Fort Bliss	2%	86%	10%	1%	0%	99%
Fort Jackson	2%	74%	19%	3%	1%	99%
Fort Knox	6%	68%	17%	3%	1%	95%
Fort Lee	3%	71%	21%	2%	1%	98%
Fort Leonard Wood	5%	75%	16%	2%	1%	99%
Fort Sill*	5%	67%	25%	0%	0%	97%
Total	5%	74%	17%	2%	1%	99%
Fort Dix (upon return from Europe)	5%	72%	18%	1%	2%	98%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

5. How long have you been in the IRR?

A. less than 3 months
B. 3 to 6 months
C. 7 to 9 months
D. 10 to12 months
E. 13 to 24 months
F. more than 2 years

	A.	B.	C.	D.	E.	F.	Total
Fort Benning	7%	31%	31%	21%	8%	1%	99%
Fort Bliss	6%	31%	41%	16%	5%	2%	101%
Fort Jackson	11%	16%	28%	20%	14%	10%	99%
Fort Knox	6%	19%	31%	22%	13%	9%	100%
Fort Lee	12%	21%	31%	22%	13%	1%	100%
Fort Leonard Wood	9%	25%	34%	19%	8%	3%	98%
Fort Sill*	10%	32%	30%	18%	8%	0%	98%
Total	8%	25%	32%	20%	10%	4%	99%
Fort Dix (upon return from Europe)	5%	25%	33%	21%	12%	3%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

6. Were you in the IRR to complete your _____?

A. Active Army obligation
B. Reserve obligation
C. National Guard obligation
D. other

	A.	B.	C.	D.	Total
Fort Benning	68%	20%	8%	2%	98%
Fort Bliss	62%	23%	10%	4%	99%
Fort Jackson	57%	18%	17%	6%	98%
Fort Knox	50%	25%	14%	9%	98%
Fort Lee	56%	19%	19%	5%	99%
Fort Leonard Wood	61%	17%	15%	6%	99%
Fort Sill*	60%	23%	10%	5%	98%
Total	60%	20%	13%	5%	98%
Fort Dix (upon return from Europe)	64%	23%	10%	3%	100%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

7. While you were in IRR, how many days of Active Duty Training (ADT) in your primary MOS did you have in the 12 months prior to the recall?

A. none
B. 1-7 days
C. 8-14 days
D. 15-30 days
E 31-60 days
F. over 60 days

	A.	B.	C.	D.	E	F.	Total
Fort Benning	78%	4%	4%	1%	1%	10%	98%
Fort Bliss	82%	5%	3%	5%	0%	6%	101%
Fort Jackson	72%	9%	4%	2%	4%	8%	99%
Fort Knox	84%	2%	2%	2%	2%	7%	99%
Fort Lee	82%	6%	2%	2%	2%	6%	100%
Fort Leonard Wood	81%	5%	3%	3%	2%	6%	100%
Fort Sill*	70%	7%	3%	5%	0%	12%	97%
Total	80%	5%	3%	2%	2%	7%	99%
Fort Dix (upon return from Europe)	75%	4%	3%	3%	2%	12%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

8. Before this call-up, when was the last time you received ADT in your primary MOS?

A. less than 3 months ago.
B. 3 to 6 months.
C. 7 to 9 months.
D. 10 to12 months.
E 13 to 24 months.
F. more than 2 years ago.

	A.	B.	C.	D.	E	F.	Total
Fort Benning	6%	16%	32%	18%	19%	6%	97%
Fort Bliss	7%	20%	31%	21%	11%	10%	100%
Fort Jackson	5%	11%	18%	20%	25%	17%	96%
Fort Knox	5%	8%	19%	18%	27%	20%	97%
Fort Lee	5%	8%	22%	21%	22%	18%	96%
Fort Leonard Wood	5%	14%	26%	22%	18%	13%	98%
Fort Sill*	5%	18%	20%	23%	17%	8%	91%
Total	6%	13%	26%	20%	20%	13%	98%
Fort Dix (upon return from Europe)	7%	17%	31%	16%	24%	5%	100%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

9. How did you feel about your Active Army service when you left it?

A. very positive
B. positive
C. neutral
D. negative
E. very negative
F. does not apply

	A.	B.	C.	D.	E	F.	Total
Fort Benning	6%	15%	25%	20%	28%	5%	99%
Fort Bliss	6%	17%	22%	23%	23%	9%	100%
Fort Jackson	10%	17%	25%	17%	23%	7%	99%
Fort Knox	8%	15%	25%	16%	23%	7%	99%
Fort Lee	7%	15%	29%	17%	23%	8%	99%
Fort Leonard Wood	5%	17%	26%	15%	27%	8%	98%
Fort Sill*	7%	25%	15%	22%	23%	2%	94%
Total	7%	16%	25%	18%	26%	7%	99%
Fort Dix (upon return from Europe)	7%	20%	35%	18%	16%	4%	100%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

10. How did you feel about your Guard/Reserve service?

A. very positive
B. positive
C. neutral
D. negative
E. very negative
F. does not apply

	A.	B.	C.	D.	E	F.	Total
Fort Benning	3%	4%	17%	7%	17%	49%	97%
Fort Bliss	3%	5%	17%	8%	16%	52%	101%
Fort Jackson	6%	10%	20%	9%	15%	39%	99%
Fort Knox	5%	9%	20%	6%	17%	43%	100%
Fort Lee	3%	8%	17%	9%	13%	47%	97%
Fort Leonard Wood	3%	6%	15%	7%	16%	53%	100%
Fort Sill*	5%	18%	10%	2%	8%	50%	93%
Total	4%	6%	17%	7%	16%	48%	98%
Fort Dix (upon return from Europe)	4%	5%	25%	10%	12%	43%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

11. In general, how much did you like your Army primary MOS job during your last duty?

A. I liked it a lot.
B. I liked it somewhat.
C. I neither liked it nor disliked it.
D. I disliked it somewhat.
E I disliked it a lot.

	A.	B.	C.	D.	E	Total
Fort Benning	11%	22%	16%	15%	34%	98%
Fort Bliss	17%	30%	18%	14%	21%	100%
Fort Jackson	25%	31%	18%	9%	15%	98%
Fort Knox	17%	26%	20%	12%	24%	99%
Fort Lee	22%	31%	22%	11%	13%	99%
Fort Leonard Wood	13%	27%	18%	13%	26%	97%
Fort Sill*	12%	27%	17%	12%	25%	93%
Total	16%	27%	18%	13%	25%	99%
Fort Dix (upon return from Europe)	17%	31%	21%	14%	18%	101%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

12. **How much overlap is there between the tasks required by your primary MOS and those you performed recently as a civilian (job, hobbies, school, volunteer work)?**

A. None, the sets of tasks are totally different.
B. I did a few of my MOS tasks as a civilian.
C. I did about half of my MOS tasks as a civilian.
D. I did most of my MOS tasks as a civilian.
E The tasks I did as a civilian included nearly all of those in my MOS.

	A.	B.	C.	D.	E	Total
Fort Benning	85%	12%	2%	1%	0%	100%
Fort Bliss	73%	12%	7%	3%	4%	99%
Fort Jackson	56%	23%	7%	7%	7%	100%
Fort Knox	79%	16%	2%	1%	2%	100%
Fort Lee	65%	23%	6%	3%	2%	99%
Fort Leonard Wood	81%	11%	3%	2%	3%	100%
Fort Sill*	88%	7%	0%	0%	0%	95%
Total	77%	15%	3%	2%	2%	99%
Fort Dix (upon return from Europe)	86%	10%	1%	0%	2%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

13. **How often did you perform tasks in your recent civilian life (job, hobbies, school, volunteer work) that were similar to tasks in your primary MOS?**

A. never
B. monthly
C. weekly
D. daily

	A.	B.	C.	D.	Total
Fort Benning	79%	8%	6%	6%	99%
Fort Bliss	72%	10%	7%	12%	101%
Fort Jackson	53%	14%	11%	22%	100%
Fort Knox	73%	10%	7%	9%	99%
Fort Lee	64%	7%	10%	19%	100%
Fort Leonard Wood	79%	7%	6%	8%	100%
Fort Sill*	83%	2%	5%	5%	95%
Total	73%	9%	7%	11%	100%
Fort Dix (upon return from Europe)	82%	9%	4%	3%	98%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

14. At the time you were called-up, how many of your primary MOS skills did you remember?

A. almost all, I felt that I was ready for active duty without any additional training.
B. most, I felt that I needed only a few days of refresher training.
C. some, I felt that I needed a couple of weeks of refresher training.
D. only a few, I felt that I needed nearly complete retraining.

	A.	B.	C.	D.	Total
Fort Benning	37%	37%	16%	8%	98%
Fort Bliss	32%	39%	18%	10%	99%
Fort Jackson	39%	32%	19%	9%	99%
Fort Knox	19%	33%	24%	22%	98%
Fort Lee	20%	44%	22%	13%	99%
Fort Leonard Wood	26%	33%	24%	16%	99%
Fort Sill*	55%	25%	12%	2%	94%
Total	30%	35%	21%	13%	99%
Fort Dix (upon return from Europe)	42%	40%	12%	4%	98%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

15. **How did you feel about being called-up when you first received your notice?**

A. very positive
B. positive
C. neutral
D. negative
E very negative

	A.	B.	C.	D.	E.	Total
Fort Benning	6%	9%	22%	15%	46%	98%
Fort Bliss	3%	11%	21%	21%	44%	98%
Fort Jackson	13%	14%	21%	18%	32%	98%
Fort Knox	7%	12%	16%	17%	48%	100%
Fort Lee	4%	12%	19%	22%	43%	100%
Fort Leonard Wood	5%	13%	20%	16%	44%	98%
Fort Sill*	10%	12%	27%	18%	25%	92%
Total	6%	12%	20%	17%	43%	98%
Fort Dix (upon return from Europe)	7%	14%	26%	22%	30%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

16. How do you feel now about being called-up?

A. very positive
B. positive
C. neutral
D. negative
E very negative

	A.	B.	C.	D.	E	Total
Fort Benning	4%	10%	20%	19%	45%	98%
Fort Bliss	1%	12%	25%	20%	41%	99%
Fort Jackson	8%	12%	20%	19%	39%	98%
Fort Knox	8%	12%	20%	14%	45%	99%
Fort Lee	4%	8%	22%	21%	43%	98%
Fort Leonard Wood	5%	11%	23%	18%	41%	98%
Fort Sill*	5%	17%	38%	12%	20%	92%
Total	5%	11%	22%	18%	42%	98%
Fort Dix (upon return from Europe)	5%	16%	28%	20%	30%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

17. Did you experience any problems with in-processing?

	Yes	No	Total
Fort Benning	58%	39%	97%
Fort Bliss	67%	30%	97%
Fort Jackson	48%	49%	97%
Fort Knox	43%	55%	98%
Fort Lee	57%	42%	99%
Fort Leonard Wood	46%	51%	97%
Fort Sill*	40%	48%	88%
Total	52%	46%	98%
Fort Dix (upon return from Europe)	42%	56%	98%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

18. **Now that you have completed retraining, how technically prepared do you feel to do your Army job?**

A. I am not ready.
B. I am not sure.
C. I am ready.

	A.	B.	C.	Total
Fort Benning	21%	31%	46%	98%
Fort Bliss	8%	29%	61%	98%
Fort Jackson	11%	26%	61%	98%
Fort Knox	25%	31%	36%	92%
Fort Lee	9%	34%	56%	99%
Fort Leonard Wood	21%	32%	46%	99%
Fort Sill*	3%	12%	73%	88%
Total	18%	31%	49%	98%
Fort Dix (upon return from Europe)	12%	15%	71%	98%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

19. How motivated are you to perform your Army duties?

A. not at all
B. somewhat
C. moderately
D. I am highly motivated.

	A.	B.	C.	D.	Total
Fort Benning	35%	25%	26%	11%	97%
Fort Bliss	27%	23%	37%	12%	99%
Fort Jackson	30%	24%	26%	19%	99%
Fort Knox	34%	23%	25%	18%	100%
Fort Lee	26%	28%	30%	15%	99%
Fort Leonard Wood	29%	28%	30%	12%	99%
Fort Sill*	22%	15%	32%	25%	94%
Total	31%	25%	28%	14%	98%
Fort Dix (upon return from Europe)	28%	25%	35%	10%	98%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

20. **Overall, how confident are you that you would perform well as a soldier in a combat situation?**

A. not at all
B. somewhat
C. moderately
D. I am highly confident.

	A.	B.	C.	D.	Total
Fort Benning	11%	16%	27%	45%	99%
Fort Bliss	16%	17%	33%	34%	100%
Fort Jackson	14%	19%	27%	39%	99%
Fort Knox	23%	18%	27%	30%	98%
Fort Lee	17%	20%	29%	32%	98%
Fort Leonard Wood	17%	18%	30%	33%	98%
Fort Sill*	5%	5%	22%	62%	94%
Total	15%	17%	28%	37%	97%
Fort Dix (upon return from Europe)	3%	12%	28%	56%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

21. **Marital status:**

A. married
B. single
C. divorced
D. widowed
E. separated

	A.	B.	C.	D.	E.	Total
Fort Benning	31%	62%	4%	0%	1%	98%
Fort Bliss	32%	62%	4%	0%	0%	98%
Fort Jackson	48%	42%	5%	1%	3%	99%
Fort Knox	47%	47%	4%	0%	1%	99%
Fort Lee	46%	44%	5%	0%	3%	98%
Fort Leonard Wood	38%	54%	5%	0%	2%	99%
Fort Sill*	30%	50%	10%	0%	0%	90%
Total	39%	53%	5%	0%	2%	99%
Fort Dix (upon return from Europe)	28%	65%	6%	0%	1%	100%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

22. How many children were living with you at the time of call-up?

A. none
B. one
C. two
D. three
E more than three

	A.	B.	C.	D.	E	Total
Fort Benning	75%	13%	7%	2%	1%	98%
Fort Bliss	77%	13%	8%	0%	0%	98%
Fort Jackson	51%	25%	17%	5%	1%	99%
Fort Knox	65%	15%	11%	5%	3%	99%
Fort Lee	53%	24%	18%	3%	0%	98%
Fort Leonard Wood	68%	16%	10%	4%	1%	99%
Fort Sill*	68%	7%	10%	7%	2%	94%
Total	67%	16%	11%	3%	1%	98%
Fort Dix (upon return from Europe)	73%	14%	8%	4%	1%	100%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

23. How many people (including yourself) depend upon you for some financial support?

A. one (myself)
B. two
C. three or more
D. no one, I receive support.

	A.	B.	C.	D.	Total
Fort Benning	53%	24%	19%	2%	98%
Fort Bliss	43%	34%	18%	4%	98%
Fort Jackson	28%	28%	41%	2%	99%
Fort Knox	34%	31%	33%	2%	100%
Fort Lee	29%	28%	41%	1%	99%
Fort Leonard Wood	39%	31%	28%	2%	100%
Fort Sill*	47%	25%	22%	0%	94%
Total	40%	29%	28%	2%	99%
Fort Dix (upon return from Europe)	51%	26%	21%	2%	100%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

24. When you received your call-up notice were you attending:

A. college
B. trade or vocational school
C. other school/training
D. I was not in school.

	A.	B.	C.	D.	Total
Fort Benning	40%	5%	5%	47%	97%
Fort Bliss	47%	9%	3%	40%	99%
Fort Jackson	27%	7%	8%	57%	99%
Fort Knox	29%	8%	4%	59%	100%
Fort Lee	26%	6%	7%	60%	99%
Fort Leonard Wood	27%	8%	7%	56%	98%
Fort Sill*	30%	5%	0%	58%	93%
Total	32%	7%	6%	54%	99%
Fort Dix (upon return from Europe)	46%	6%	5%	42%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

25. How important to you was the civilian schooling that you had to leave?

A. I was not in school
B. very important
C. somewhat important
D. not important at all

	A.	B.	C.	D.	Total
Fort Benning	**38%**	**49%**	**3%**	**5%**	95%
Fort Bliss	**32%**	**56%**	**2%**	**5%**	95%
Fort Jackson	**48%**	**39%**	**3%**	**7%**	97%
Fort Knox	**48%**	**35%**	**3%**	**7%**	93%
Fort Lee	**50%**	**39%**	**2%**	**6%**	97%
Fort Leonard Wood	**46%**	**40%**	**4%**	**8%**	98%
Fort Sill*	**37%**	**35%**	**2%**	**8%**	82%
Total	**43%**	**43%**	**3%**	**7%**	93%
Fort Dix (upon return from Europe)	**37%**	**55%**	**2%**	**2%**	96%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

26. How easy will it be to continue your schooling after you are released from active duty?

A. does not apply
B. easy
C. somewhat difficult
D. very difficult

	A.	B.	C.	D.	Total
Fort Benning	39%	19%	27%	10%	95%
Fort Bliss	35%	18%	35%	9%	97%
Fort Jackson	53%	15%	22%	7%	97%
Fort Knox	52%	14%	23%	7%	96%
Fort Lee	51%	13%	27%	7%	98%
Fort Leonard Wood	51%	14%	23%	10%	98%
Fort Sill*	42%	13%	23%	8%	86%
Total	47%	15%	25%	9%	96%
Fort Dix (upon return from Europe)	36%	20%	34%	7%	97%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

27. How important to you was the civilian job that you had to leave?

A. I was not working
B. very important
C. somewhat important
D. not important at all

	A.	B.	C.	D.	Total
Fort Benning	15%	60%	17%	7%	99%
Fort Bliss	15%	61%	21%	3%	100%
Fort Jackson	10%	70%	16%	4%	100%
Fort Knox	8%	69%	18%	4%	99%
Fort Lee	10%	72%	14%	4%	100%
Fort Leonard Wood	10%	69%	15%	4%	98%
Fort Sill*	7%	72%	13%	2%	94%
Total	11%	66%	16%	5%	98%
Fort Dix (upon return from Europe)	17%	54%	23%	5%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

28. **How easy will it be to regain your job after you are released from active duty?**

A. does not apply
B. easy
C. somewhat difficult
D. very difficult

	A.	B.	C.	D.	Total
Fort Benning	17%	47%	23%	11%	98%
Fort Bliss	17%	52%	22%	8%	99%
Fort Jackson	13%	53%	27%	6%	99%
Fort Knox	12%	49%	28%	10%	99%
Fort Lee	13%	48%	27%	10%	98%
Fort Leonard Wood	12%	51%	27%	9%	99%
Fort Sill*	8%	57%	17%	12%	94%
Total	14%	50%	26%	9%	99%
Fort Dix (upon return from Europe)	19%	52%	22%	6%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

29. **How will your personal monthy income be changed as a result of your call-up? It will be**

A. a lot more
B. a little more
C. the same
D. a little less
E. a lot less

	A.	B.	C.	D.	E	Total
Fort Benning	9%	16%	20%	21%	32%	98%
Fort Bliss	17%	17%	11%	17%	37%	99%
Fort Jackson	7%	15%	18%	23%	37%	100%
Fort Knox	7%	14%	13%	25%	40%	99%
Fort Lee	7%	15%	13%	28%	36%	99%
Fort Leonard Wood	8%	15%	15%	26%	34%	98%
Fort Sill*	10%	10%	3%	13%	53%	89%
Total	9%	15%	16%	23%	35%	98%
Fort Dix (upon return from Europe)	7%	14%	27%	25%	25%	98%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

30. **How will your family monthly income be changed as a result of your call-up? It will be**

A. a lot more
B. a little more
C. the same
D. a little less
E. a lot less

	A.	B.	C.	D.	E	Total
Fort Benning	6%	10%	33%	17%	25%	91%
Fort Bliss	12%	10%	22%	20%	31%	95%
Fort Jackson	7%	13%	22%	21%	35%	98%
Fort Knox	6%	11%	19%	22%	39%	97%
Fort Lee	6%	13%	17%	31%	31%	98%
Fort Leonard Wood	7%	11%	23%	23%	32%	96%
Fort Sill*	8%	5%	15%	13%	47%	88%
Total	7%	11%	24%	22%	31%	95%
Fort Dix (upon return from Europe)	4%	9%	39%	21%	24%	97%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

31. How will it be for your spouse and/or others at home to manage in your absence?

A. does not apply
B. easy
C. somewhat difficult
D. very difficult

	A.	B.	C.	D.	Total
Fort Benning	18%	8%	39%	31%	96%
Fort Bliss	25%	6%	42%	26%	99%
Fort Jackson	20%	11%	35%	32%	98%
Fort Knox	16%	6%	34%	43%	99%
Fort Lee	17%	7%	37%	37%	98%
Fort Leonard Wood	22%	7%	35%	35%	99%
Fort Sill*	23%	10%	30%	28%	91%
Total	20%	8%	36%	34%	98%
Fort Dix (upon return from Europe)	30%	12%	41%	16%	99%

* small sample size, n=60; all other sites, n>200.

IRR BACKGROUND QUESTIONNAIRE RESULTS

32. **Comment written?**

	Yes	No	Total
Fort Benning	51%	49%	100%
Fort Bliss	53%	47%	100%
Fort Jackson	33%	67%	100%
Fort Knox	49%	50%	99%
Fort Lee	41%	59%	100%
Fort Leonard Wood	43%	57%	100%
Fort Sill*	38%	62%	100%
Total	45%	55%	100%
Fort Dix (upon return from Europe)	31%	69%	100%

* small sample size, n=60; all other sites, n>200.

APPENDIX B - MOS and CMF breakout

PMOS	TITLE	# ENLISTED	CMF TOTALS
CMF 11	INFANTRY		
11B	INFANTRYMAN	2370	
11C	INDIRECT FIRE INF.	533	
11H	HEAVY ANTIARMOR INF.	415	
11M	FIGHTING VEHICLE INF.	543	
11Z	INFANTRY SR. SERGEANT	8	3869
CMF 12	COMBAT ENGINEERING		
12B	COMBAT ENGINEER	969	
12C	BRIGDE CREWMEMBER	17	
12F	ENGR TRK VEH CREWMAN	1	
12Z	CBT ENG SR. SERGEANT	2	989
CMF 13	FIELD ARTILLERY		
13B	CANNON CREWMEMBER	1455	
13C	TACFIRE OP SPEC.	1	
13E	CANNON FIRE DIRECTION SP.	193	
13F	FIRE SUPPORT SPEC.	334	
13M	MLRS CREW MEMBER	2	
13N	LANCE CREWMEMBER	1	
13R	FA FF RADAR OPR.	3	
13Z	FA SENIOR SERGEANT	1	
15E	PERSHING MISSILE CREWMBR	1	1991
CMF 14	AIR DEFENSE ARTILLERY		
16D	HAWK MISSILE CREW MBR	1	
16F	LA DA ART CRMBR (RC)	1	
16P	CHAPARRAL CREWMEMBER	13	
16R	VULCAN CREWMEMBER	62	
16S	PM STINGER CREWMEMBER	263	340
CMF 18	SPECIAL FORCES		
18Z	SF SENIOR SERGEANT	2	2
CMF 19	ARMOR		
19D	CAVALRY SCOUT	477	
19E	M48-M60 ARMOR CREWMAN	243	
19K	M1 ARMOR CREWMAN	613	
19Z	ARMOR SENIOR SERGEANT	1	1334
CMF 23	AIR DEFENSE SYSTEM MAINT.		
24M	VULCAN SYSTEM MECHANIC	29	
24N	CHAPARRAL SYSTEM MECH.	10	
25L	ADA C2 SYSTEM OP/REPAIRER	5	44
CMF 25	VISUAL INFORMATION		
25Q	GRAPHICS DOC SPECL	1	
25S	STILL DOC SPECIALIST	1	2

APPENDIX B - MOS and CMF breakout

PMOS	TITLE	# ENLISTED	CMF TOTALS
CMF 27	LC & AD SYS DGS MAINT		
27E	TOW/DRAGON REPAIRER	1	
27F	VULCAN REPAIRER	1	
27N	FWD AREA ALERT. RADAR REP.	1	3
CMF 29	SIGNAL MAINTENANCE		
29E	RADIO REPAIRER	1	
29M	TATC SAT /MICRO REPR	1	2
CMF 31	SIGNAL OPERATIONS		
31C	SINGLE CHANNEL RADIO OPER.	13	
31G	TACTICAL COM CHIEF	5	
31K	COMBAT SIGNALER	25	
31L	WIRE SYSTEMS INSTALLER	9	
31M	MULTI COM SYS OPER	7	
31N	COM SYS/CIR CONT	1	
31V	UNIT LEVEL COM MAINT	6	
31Z	COM-OPERATIONS CHIEF	2	
36M	SWITCHING SYSTEMS OPER	2	70
CMF 46	PUBLIC AFFAIR		
46Q	PUBLIC AFFAIRS	4	4
CMF 55	AMMUNITION		
55B	AMMO SPEC.	138	
55D	EXP ORD DIS SPECIALIST	1	
55Z	AMMUNITION SUPERVISOR	3	142
CMF 51	GENERAL ENGINEERING		
51B	CARPENTRY & MASON SPEC	2	
51G	MATERIALS QUALITY SPEC	1	
51H	CONS ENGR SUPERVISOR	1	
51K	PLUMBER	4	
51M	FIREFIGTHER	2	
51R	INTERIOR ELECTRICIAN	1	
51Z	GEN ENGR SUPERVISOR	3	
62E	HVY CONSTRUCT EQUIP OPER.	12	
62F	CRANE OPERATOR	8	
62H	CON & ASP EQUIP OPER	1	
62J	GEN CONSTR. EQUIP OPER.	4	
81B	TECH DRAFT SPECIALIST	1	40
CMF 54	CHEMICAL		
54B	CHEMICAL OPER SPECIALIST	12	12

APPENDIX B - MOS and CMF breakout

PMOS	TITLE	# ENLISTED	CMF TOTALS
CMF 63	MECHANICAL MAINTENANCE		
41C	FIRE CONTROL INSTR. REPAIR	19	
44B	METAL WORKER	3	
44E	MACHINIST	1	
45B	SMALL ARMS REPAIRER	50	
45D	SP FA TURRET MECHANIC	34	
45E	M1 TANK TURRET MECHANIC	32	
45G	FIRE CONTROL SYS REPAIRER	8	
45K	TANK TURRET REPAIRER	77	
45L	ARTILLERY REPAIRER	31	
45T	BRADLEY FVS TURRET REPAIR	33	
52C	UTILITIES EQUIP. REPAIRER	141	
52D	POWER-GEN EQUIP REPAIR	7	
52X	SPE PUR EQUIP REPAIR ER	2	
62B	CONST EQUIPT REPAIRER	7	
63B	LIGHT WHEEL VEH MECH.	912	
63D	SP FA SYSTEM MECH.	119	
63E	M1 TANK SYSTEM MECH.	111	
63G	FUEL/ELECT SYSTEM REPAIR	55	
63H	TRACK VEHICLE REPAIRER	202	
63J	QTM /CHEM EQUIP REPAIR	80	
63N	M60A1/A3 TANK SYS MEC	5	
63S	HVY WHEEL VEH MECHANIC	150	
63T	BRADLEY FVS MECHANIC	310	
63W	WHEEL VEH REPAIRER	200	
63Y	TRACK VEH MECHANIC	110	
63Z	MEC MAINT SUPERVISOR	2	2701
CMF 67	AIRCRAFT MAINTENANCE		
67N	UTILITY HELICOPTER REPAIR	121	
67R	AH64 ATTACK HELIC. REPAIR	21	
67S	SCOUT HELICOPTER REPAIR	11	
67T	UH60 HELICOPTER REPAIR	88	
67U	MEDIUM HELICOPTER REPAIR	55	
67V	OBS/SCOUT HELIC. REPAIR	113	
67Y	AH1 ATTACK HELIC. REPAIR	74	
68B	AIRC POWER REPAIRER	2	
68F	AIRCRAFT ELECTRICIAN	17	
68H	AIRCRAFT PDRA REPAIR	8	
68J	AIRCRAFT ARM/MISSILE REP	67	
68L	AVIONIC COMMO EQP REPAIR	29	
68N	AVIONIC MECHANIC	46	
68R	AVIONIC RADAR REPAIRER	15	667

APPENDIX B - MOS and CMF breakout

PMOS	TITLE	# ENLISTED	CMF TOTALS
CMF 71	ADMINISTRATION		
71C	EXE ADM N SPECIALIST	1	
71D	LEGAL SPECIALIST	1	
71L	ADMINISTRATIVE SPEC	30	
71M	CHAPLAIN ASSISTANT	3	
73C	FINANCE SPECIALIST	2	
73Z	FINANCE SENIOR SERGEANT	1	
75B	PRSNNL ADMIN SPEC	5	
75C	PRSNNL MGMNT SPEC	7	
75D	PRSNNL RECORDS SPEC	4	
75E	PRSNNL ACTIONS SPEC	2	
75Z	PERSONNELL SERGEANT	5	61
CMF 74	RECORD INFO OPERATIONS		
74D	INFO SYSTEMS OPERATOR	1	1
CMF 76	SUPPLY AND SERVICES		
43E	PARACHUTE RIGGER	4	
57E	LAUNDRY/BATH SPEC.	12	
57F	GRAVES REGIST. SPEC	14	
76C	EQP RECORDS/PARTS SPEC	486	
76P	MAT. CONTROL/ACCT SPEC	197	
76V	MAT. STORAGE/HANDL SPEC	282	
76X	SUBSTIS. SUPPLY SPEC	49	
76Y	UNIT SUPPLY SPEC	452	
76Z	SR. SUPPLY/SERVICE SGT	1	1497
CMF 77	PETROLEUM AND WATER		
77F	PETRO SUPPLY SPEC	521	
77W	WATER TREATMT. SPEC	51	572
CMF79	RECRUIT & REENLISTMENT		
79D	REENLISTMENT NCO (RC)	2	2
CMF 81	TOPOGRAPHIC ENGINEERING		
81C	CARTOGRAPHER	1	
81Q	TERRAIN ANALYST	1	
83E	PHOTO & LAYOUT SPEC	1	3
CMF 88	TRANSPORTATION		
88H	CARGO SPEC	47	
88M	MOTOR TRANSPORT OPER.	887	
88N	TRAFFIC MGT. COORDINATOR	73	1007

APPENDIX B - MOS and CMF breakout

PMOS	TITLE	# ENLISTED	CMF TOTALS
CMF 91	MEDICAL		
42D	DENTAL LAB SPECIALIST	1	
91A	MEDICAL SPEC.	1357	
91B	MEDICAL NCO	82	
91C	PRACTICAL NURSE	79	
91D	OPERATING ROOM SPEC	73	
91E	DENTAL SPECIALIST	3	
91G	BEH SCIENCE SPECIALIST	4	
91H	ORTHOPEDIC SPEC	1	
91P	X-RAY SPECIALIST	3	
91Q	PHARMACY SPECIALIST	2	
91R	VET FOOD INSP SPECIALIST	2	
91S	PREVENTIVE MED. SPEC	63	
91T	ANIMAL CARE SPEC	1	
92B	MED LAB SPECIALIST	5	1676
CMF 93	AVIATION OPERATIONS		
93C	ATC OPERATOR	4	
93D	ATC SYS SUBSYS & EQUIPT	1	
93P	AVIATION OPER SPECIALIST	1	6
CMF 94	FOOD SERVICE		
94B	FOOD SERVICE SPECIALIST	26	26
CMF 95	MILITARY POLICE		
95B	MILITARY POLICE	29	
95C	CORRECTIONS NCO	1	30
CMF 96	MILITARY INTELLIGENCE		
96B	INTELLIGENCE ANALYST	5	
96D	IMAGERY ANALYST	1	
96H	GSS OPERATOR	1	
97B	COUNTERINTEL AGENT	1	8
CMF 98	SIGNALS INTEL/ELEC WO		
98C	SIGNALS INTEL ANALYST	2	
98G	VOICE INTERCEPTOR	3	5
INCOMPLETE MOS INFORMATION			
	11	21	
	12	1	
	13	13	
	15	4	39

APPENDIX B - MOS and CMF breakout

PMOS	TITLE	# ENLISTED	CMF TOTALS
CANNOT IDENTIFY			
15N		1	
19A		1	
36K		1	
72E		2	
76J		2	
82C		1	
84B		1	
97W		1	10
COMMISIONED OFFICERS			
00E	STUDENT OFFICER	2	
12A	ARMOR, GENERAL	10	
13A	FIELD ARTILLERY, GENERAL	1	
15B	AVIATION	2	
15C	AVIATION	1	
42A	ADJ. GEN., GENERAL	2	
56A	CHAPLAIN	2	
62	MEDICAL	1	
63	DENTAL	1	
64	VETERINARY	1	
66	NURSE	8	
66J	CLINICAL NURSE	1	
67	MED SVC CORPS	7	
68	MED SVC CORPS	1	
92A	QM, GENERAL	1	41
WARRANT OFFICERS			
131	FIELD ARTILLERY	1	
152	AVIATION	29	
153	AVIATION	44	
154	AVIATION	20	
155	AVIATION	1	
213	ENGINEER	1	
251	DATA PROCESSING TECH	1	
256	SIGNAL SYSTEMS TECH	1	
311	MIL. POLICE	1	
420	ADG GENERAL	4	
915	ORDNANCE	4	
920	QUARTERMASTER	3	110
	TOTAL	**17306**	**17306**

APPENDIX C

RELEASE FROM ACTIVE DUTY AFTER CALL-UP

REASON CODE	NUMBER
MEDICAL SEPARATION	1056
COMPASSIONATE/DEP./HARDSHIP	707
MEDICAL TEMP HOLD, NONDEPLOYABLE	441
DOESN'T MEET WEIGHT CONTROL STD	360
OTHER, NOT CATEGORIZED	141
DRUG ABUSE	47
RECLASSIFICATION	22
UNIT RECALL	16
ERRONEOUS ENROLLMENT	12
PERSONNEL ACTION PEND. UNDEFINED	12
COMPREHENSION/ACADEMIC	6
TRAINEE DISCHARGE PROGRAM	5
MOTIVATIONAL	3
DISCIPLINARY/MISCONDUCT	3
PHYSICAL FITNESS (REMD TNG, APFT)	2
LEAVE, EMERGENCY	1
ERRONEOUS ENLISTMENT	1
AWOL, FROM DUTY TO	1
TOTAL	2836

APPENDIX D

MOS SPECIFIC PERFORMANCE TESTS

RESULTS

RESULTS OF MOS SPECIFIC TESTS

HANDS-ON TESTS

MOS TITLE	TEST	MEAN % GO
12B Combat Engineer	Emplace M14 Mine	91
	Emplace M16 Mine	85
	Emplace M15 Mine	89
	Emplace M19 Mine	93
	Emplace M21 Mine	84
	Locate Mine w/Probe	85
	Locate Mine w/Probe AN/PSS11 Detector	96
13B Cannon Crewmember	Emplace/Recover Aiming Posts	97
	Emplace/Recover Collimator	85
	Identify/Prepare Ammo for Firing	79
	Load/Fire/Clear Weapon,Towed & SelfP	85

MOS TITLE	TEST	MEAN %
11C Indirect Fire Infantryman	Mortar Target	9
11H Heavy Antiarmor Infantryman	TOW ITV Target	74
	TOW HMMWV Target	73
12B Combat Engineer	M16 Weapn Qualif	71

MOS SPECIFIC TESTS

WRITTEN TESTS

MOS	TITLE	TEST	MEAN % GO
41C	Fire Control Instrument Repairer	SQT-Prior to Trng	92
45B	Small Arms Repairer	SQT-Prior to Trng	86
45G	Fire Control Systems Repairer	SQT-Prior to Trng	87
45K	Tank Turret Repairer	SQT-Prior to Trng	84
45L	Artillery Repairer	SQT-Prior to Trng	75
63D	Self-Propelled FA System Mechanic	SQT-Prior to Trng	93
63G	Fuel/Electric Systems Repairer	SQT-Prior to Trng	85
63H	Track Vehicle Repairer	SQT-Prior to Trng	73
63J	QM/Chemical Equipment Repairer	SQT-Prior to Trng	93
63W	Wheel Vehicle Repairer	SQT-Prior to Trng	86
63Y	Track Vehicle Mechanic	SQT-Prior to Trng	76

MOS	TITLE	TEST	MEAN %
76C	Eqpmt Records/Parts Specialist	Diagnostic #1-76C	69
		Diagnostic #2-76C	63
		Certif Exam-76C	88
76P	Material Control and Accounting Specialist	Diagnostic Test-76P	47
		Certif Exam-76P	87
76V	Material Storage and Handling Specialist	Diagnostic Test-76V	62
		Certif Exam-76V	81
76X	Susbsitence Supply Specialist	Diagnostic Test-76X	54
		Certif Exam-76X	83
76Y	Unit Supply Specialist	Diagnostic Test-76Y	61
		Certif Exam-76Y	87
77F	Petroleom Supply Spec	Diagnostic Test-77F	57
77W	Water Treatment Spec	Diagnostic Test-77W	59